



The adoption of IFRS by Greek listed companies: financial statement effects, level of compliance and value relevance

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Declaration

This is to certify that:

- (i) This thesis has been composed by the candidate and is the candidate's own work.
- (ii) The work has not been submitted for any other degree or professional qualification.

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Date

‘...the steeper the mountain, the harder the climb,
the better the view from the finishing line...’

Anonymous

Abstract

This study examines issues relating to the mandatory adoption of International Financial Reporting Standards (IFRS) by Greek listed companies.

Initially, the impact of transition, as a result of differences between IFRS and Greek GAAP, on the first IFRS financial statements in 2005 is assessed. Then, a disclosure index is constructed, containing all the disclosure items mandated by the IFRS extant at the end of April 2006. Based on this research instrument, and two disclosure index methods, compliance with IFRS mandatory disclosures in their first year of implementation is examined. A review of disclosure theories, the features of the Greek financial reporting system, and considerations regarding the timing of the research are used as a basis for establishing *a priori* expectations and testing the potential factors explaining compliance with IFRS mandatory disclosures. Subsequently, any change in the value relevance of accounting information before and immediately after IFRS mandatory implementation is examined. Whether the reconciliation statements required by IFRS 1 provided value relevant information to investors is also explored. Finally, the valuation implications of IFRS mandatory disclosures are explored.

The above analyses indicate the following. Greek listed companies' financial statements were affected significantly by the adoption of IFRS. The average level of compliance with IFRS mandatory disclosures approximates to 80%. The impact on net income and shareholders' equity, as a result of the transition to IFRS, as well as audit firm size, are significantly associated with the extent to which companies comply. No change in the value relevance of accounting information between 2004 and 2005 is identified. Reconciliation adjustments are incrementally value relevant and levels of mandatory disclosures do have valuation effects.

Based on the findings of the above analyses, the study contributes to the relevant literature and discusses policy implications. It also concludes with suggestions for further research and recommendations on the methods for measuring compliance with IFRS mandatory disclosures.

Dedication

This Thesis is Dedicated to my Parents,
Adamantia and Vaggelis.

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Abbreviations

AIMR	Association for Investment Management Research
ASE	Athens Stock Exchange
CESR	Committee of European Securities Regulators
CIFAR	Centre for International Financial Analysis and Research
ELTE	Committee of Accounting Standardisation and Auditing
EU	European Union
FESCO	Forum of European Securities Commissions
GAAP	Generally Accepted Accounting Principles
HCMC	Hellenic Capital Market Commission
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
ICAEW	Institute of Chartered Accountants in England and Wales
IFRS	International Financial Reporting Standards
IOSCO	International Organisation of Securities Commissions
LID	Linear Information Dynamics
MSE	Mean Square Error
OM	Ohlson (1995) Model
PD	Presidential Decree
SEC	Securities and Exchange Commission

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Chapter 1 - Motivation, Objectives and Overview of the Study

1.1 Motivation

For the accounting periods are starting on or after 1 January 2005, European Union (EU) publicly traded companies are required to prepare consolidated accounts on the basis of International Financial Reporting Standards (hereafter IFRS).¹ This decision was taken in an attempt to increase comparability of accounting information throughout the EU member states following the limited success of harmonisation process by the means of the EU company law directives. Approximately 9,000 listed companies in 28 EU countries (25 member states and three countries in the Economic Area) (Whittington, 2005) would have to switch to IFRS at the same time. This development has been described as the most significant event in the history of financial reporting. Additionally, this decision lead to countries outside the EU also implementing IFRS (at the same time or soon after) based on the rationale that IFRS would be of higher quality than the corresponding national standards. Thus, comparability of financial information would be enhanced, resulting in the attraction of foreign investors. These developments meant that 85 jurisdictions now² require all listed companies to follow IFRS, four require some listed companies to follow IFRS and 24 permit all or some listed companies to follow IFRS. 28 of these jurisdictions require all non-listed companies to follow IFRS as well (Teixeira, 2009).

However, not unexpectedly, mandatory adoption of IFRS in so many different jurisdictions was followed by scepticism. The main reasons were similar to those hindered a successful level of comparability, by the means of the EU company law directives, would provide ‘motives’ or ‘opportunities’ for the non-uniform application of IFRS across different jurisdictions (Nobes, 2006).

¹ Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002. International Accounting Standards (IAS) were issued by the International Accounting Standards Committee (IASC) and adopted in 2001 by the restructured International Accounting Standards Board (IASB), which has since been amending them or replacing them with IFRS.

² At the time writing this thesis.

Put simply, accounting standards are only one element of the ‘financial reporting chain’ within a country (Damant, 2006: 30); there are also several social, political and institutional factors of relevance. Differences in compliance and enforcement mechanisms as well as different cultural and institutional backgrounds play an important role in the way accounting is practiced and how accounting information is perceived (Schipper, 2005; Ball, 2006; Nobes, 2006; Larson and Street, 2004; Soderstrom and Sun, 2007; Zeff, 2007). Accordingly, the different socio-economic contexts of EU countries (and their influences on accounting) would not change just because of the mandatory implementation of IFRS. In a similar vein, Weetman (2006: 359) questions ‘the effectiveness of accounting standardisation in terms of comparability without harmonisation of managers’ incentives across Europe’. Additionally, the different versions of IFRS and/or the options (overt or covert) provided by the standards can lead to differences in IFRS practice (Nobes, 2006).

Following the ‘concerns’ expressed and the research opportunities suggested by the above literature, the present study explores three different dimensions of this significant event. *First*, it looks at the immediate effects of mandatory IFRS adoption on financial statements because of the significant pre-IFRS accounting differences (Nobes, 2006), using the reconciliation statements provided in the first IFRS financial statements as required by IFRS 1 ‘First-time adoption of International Financial Reporting Standards’. *Second*, it examines companies’ compliance with IFRS mandatory disclosures and the factors associated with these levels during the first year of IFRS implementation (cf. Giner and Rees, 2005; Schipper, 2005; Nobes, 2006; Zeff, 2007; Ball, 2006). *Third*, it examines effects of the switch to IFRS in the value relevance of accounting figures in several fronts (Ball, 2006; Hung and Subramanyam, 2007; Barth et al., 2008; Leuz and Wysocki, 2008). The study intentionally focuses on the first year of mandatory IFRS adoption as it not only explores these issues independently but also explores the links between these dimensions.

1.2 Greece and Its Relevance to the Dimensions Examined

All the above are explored in an in-depth case study of Greece. The possibility of conducting a comparative study which would examine some of the above dimensions across two or more countries (e.g. Greece vs. UK) was explored. However, this was rejected because it would restrict the research to examination of fewer dimensions (due to time constraints) rather than the broader and deeper investigation which can be found in the present research.

Focusing on a single country is also in line with Weetman (2006: 364) who encourages authors of single country studies to ‘recognise and discuss the country specific context rather than set it to one side or assume it does not exist’. (This study does so by providing the Greek context in chapter 2. The Greek features are also considered for the development of the testable hypotheses as well as the discussion of the findings.) She also points out that ‘country-specific studies reveal the potential for comparative studies on a wider geographical basis’ (ibid: 351). However, single country studies entail the limitations of small datasets and of uncertainty about the quality of the accounting information. Nevertheless, mandatory adoption of IFRS is highlighted as an opportunity to surpass the first limitation (Giner and Rees, 2005). More specifically, it provides the ability to use large samples at a single country level and make comparisons regarding IFRS implications. This allows for more powerful tests and conclusions compared to what was the case before the mandatory adoption of IFRS. Finally, a single-country case study approach allows controlling for institutional and political factors which affect companies’ reporting and stock market participants’ investing behaviours. This could not easily be controlled for in an international comparative study (Ruland et al., 2007).³

Greece is a particularly interesting locus for examining the objectives of this study because of its unique accounting environment. The accounting/audit profession is relatively young and weak (Baralexis, 2004). Enforcement of accounting regulation

³ Of course, even in single country studies, the research design needs to account for sampling bias (Ruland et al., 2007). The present study considers this issue (see section 5.5.1).

is very weak (La Porta et al., 1998; Baralexis, 2004) and creative accounting⁴ is common (Polychroniadis, 2002; Spathis, 2002; Spathis et al., 2002; Baralexis, 2004).

In fact, Leuz et al. (2003) classify Greece (along with Austria) as the country (out of 31) with the highest earnings management. As a result, there is general mistrust of the accounting numbers published (Papas, 1993; Ballas, 1994; Kontoyannis, 2005). Ownership concentration is high (Tzovas, 2006) and, arguably, adoption of IFRS may not necessarily lead to a more transparent reporting system. Additionally, Greek GAAP⁵ differs significantly from IFRS (Ding et al., 2007);⁶ therefore Greek companies' financial statements should be affected considerably by the transition. Additionally, Greek culture is distinct. Greece is the country with the highest score for uncertainty avoidance (out of 52) in Hofstede's (1983) study. Nevertheless, since 2000 the Greek market has been considered to be a developed market (Mantikidis, 2000).⁷ Additionally, at the end of March 2006 almost 50% of the market capitalisation belonged to foreign investors (Central Security Depository, 2006). Thus, there is not only a national but also an international interest in the quality of Greek listed companies' financial statements.

Nobes and Parker (2008: 195) argue that 'weak legislation, lack of resources and ineffective audit profession in some EU countries make compliance with IFRS in practice voluntary'. On that basis, the above mentioned national features raise concern regarding Greek listed companies' compliance with IFRS mandatory disclosure requirements. Beyond examining this, it remains an empirical question then whether adoption of IFRS do change investors' perception about the quality of

⁴ Baralexis (2004: 440) defines creative accounting or earnings management 'as the process of intentionally exploiting or violating the GAAP or the law to present financial statements according to one's interests'. This definition is followed here.

⁵ By Greek GAAP is meant codified accounting rules, in particular Law 2190/20 and Presidential Decree (PD) 186/92 (Tax Law - known also as Code of Books and Records) and pronouncements of the Committee of Accounting Standardisation and Auditing (ELTE). This is a narrow definition of GAAP. The term 'GAAP' in other jurisdictions may refer also to professional pronouncement or non-promulgated guidance or practices (cf. Evans, 2004).

⁶ A brief discussion of the limitations of Ding et al. (2007) based on Nobes (2009), is provided in section 3.4.1.

⁷ In September 2006 FTSE classified Greece in the 'watch list', meaning it may change status to 'Advanced Emerging Market' (this is still the case in September 2009 (FTSE, 2009)).

financial statements and companies' compliance explicitly matters for valuation purposes.

More specifically, one dimension of accounting quality is the value relevance of accounting information, i.e. the relationship between book values and market values (Barth et al., 2008).⁸ Thus, one could argue that, after adoption of IFRS which are expected to curtail creative accounting practices previously followed under Greek GAAP, users would place greater trust in financial statements. Additionally, this would suggest that the impact revealed in the reconciliation statements, which was expected to be significant because of the substantial differences between Greek GAAP and IFRS, was incrementally value relevant to the 2005 IFRS book values.

On the other hand, one could argue that the behaviour of accountants and auditors regarding creative accounting practices would not change just because accounting standards change (cf. Weetman, 2006; Nobes, 2006, Ball, 2006). If investors made the latter assumption, their perception about the quality of financial statements would not change and thus no change in the relative value relevance of accounting information (i.e. R^2) would be identified. In line with this proposition, the reconciliation adjustments may not be value relevant if investors perceive them as an outcome of a transitional 'big bath' instead of genuine changes as a result of the differences between the two regimes.

Finally, research indicates that companies' disclosures have valuation effects (e.g. Hope, 2003a; Bushman et al., 2003; Lundholm and Myers; 2002; Hussainey and Walker, 2009). Greek GAAP did not require disclosures as substantial as those required by IFRS and in practice companies provided very limited notes to the financial statements (Vlachos, 2001). Adoption of IFRS would provide (if enforced) more complete information to investors by substantially increasing disclosures (Daske and Gebhardt, 2006). Thus, Greek investors might consider companies' level of compliance with disclosure requirements when making their investment decisions. This would make the level of disclosures also value relevant (as a reflection of the

⁸ Other aspects of accounting quality include timely loss recognition and earnings management (Barth et al., 2008).

extent of the information provided) and should result in different valuation effects across high versus low compliance companies.

Considering the Greek context (which is explained in more detail in chapter 2), the results can shed light on the ‘concerns’ expressed in the literature regarding the improvement of accounting quality expected from mandatory IFRS adoption, by looking at a single country.

1.3 Research Questions

Taking into consideration the above opportunities for research, as well as the brief introduction to the features of the Greek context, this thesis addresses the following research questions:

- Q1. Was the impact of transition to IFRS on Greek listed companies material and statistically significant?
- Q2. To what extent did Greek listed companies comply with IFRS mandatory disclosures, during the first year of IFRS adoption?
- Q3. Which factors explain Greek listed companies’ compliance with IFRS mandatory disclosures?
- Q4. Is there a change in the accounting quality (defined as the value relevance of accounting information) after the mandatory adoption of IFRS in Greece?
- Q5. Is the information reported within shareholders’ equity reconciliation statements of Greek listed companies incrementally value relevant to the 2005 book values?
- Q6. What are the valuation implications of IFRS mandatory disclosures in Greece?

1.4 Research Objectives - Contribution

Providing answers to the above questions informs the objectives of this study resulting in contribution to the relevant literature. In broad terms, this research makes a contribution to knowledge by adding a single country study to the growing literature on implementation of IFRS in different cultural and regulatory contexts, relevant not only to academics but also to regulators and standard setters. The Greek case is of relevance in particular to transitional economies which recently joined or are in the process of applying for EU membership and to other continental European countries (e.g. Spain, Italy, Portugal) with which Greece may share more cultural, political and economic features than with its western European neighbours. The findings would also be of interest to countries which will adopt IFRS in the near future. Additionally, this study provides insights useful to stock market regulators on the extent of companies' compliance with accounting standards and how this affects investors' perceptions.

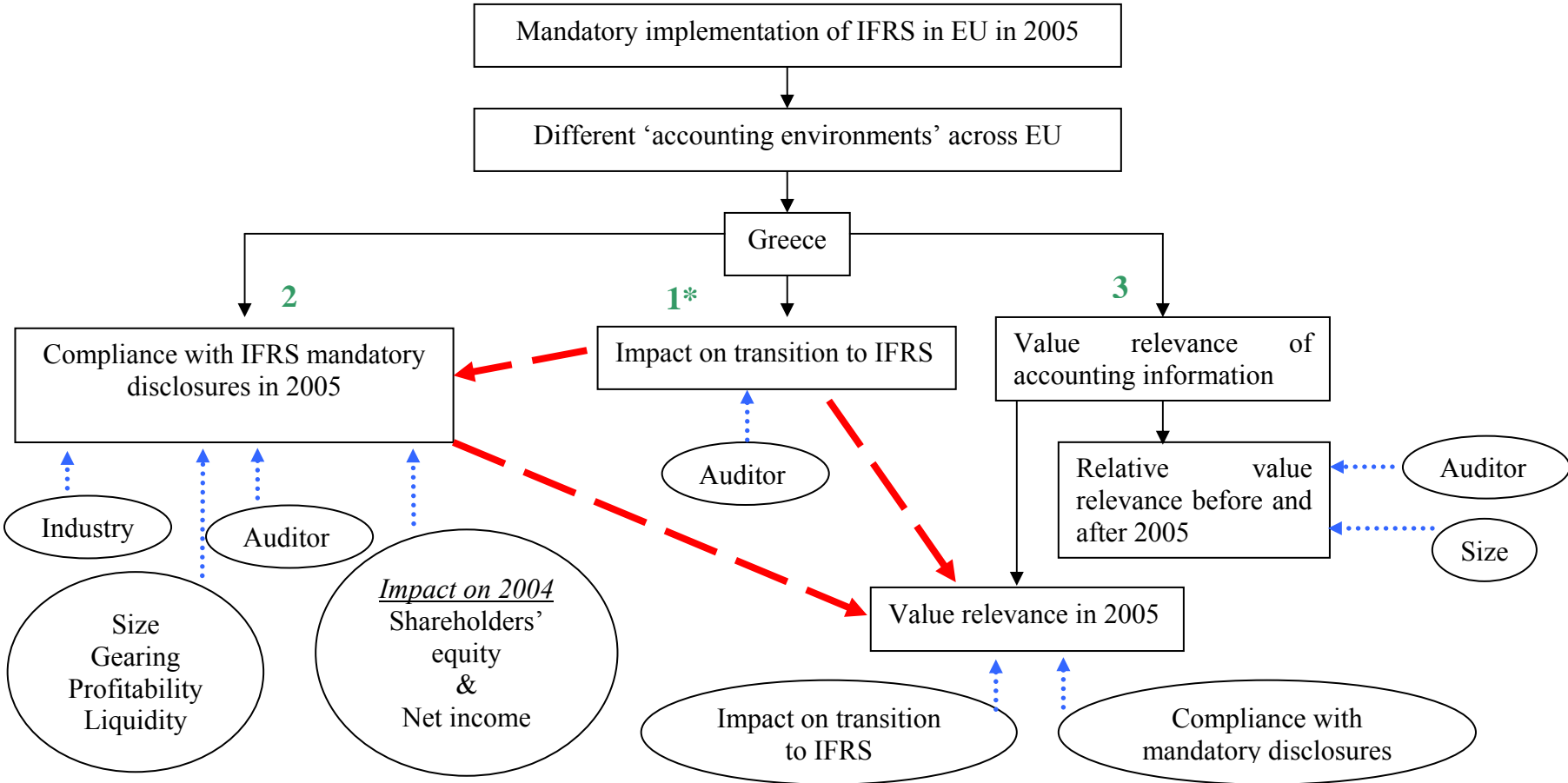
In more specific terms, the objectives of this study are to make a contribution to the relevant academic literature with regard to:

- Financial statement effects of transition to IFRS.
- Compliance with mandatory disclosures in general and after IFRS implementation in the EU in particular.
- The methods for measuring compliance with accounting standards' mandatory disclosures.
- Disclosure theories via the exploration of proxies for the factors explaining compliance with accounting standards' mandatory disclosures.
- Value relevance research and valuation theory using the Ohlson (1995) model.
- The effects of IFRS implementation on the relative and incremental value relevance of accounting information.

- The valuation implications of mandatory disclosures.

Figure 1-1 provides a ‘portrait’ of the research steps this study followed in order to meet these objectives. The sections after Figure 1-1 explain the research objectives and illustrate how this study makes the above general as well as more specific contributions.

Figure 1.1: A 'portrait' of the study



—————> Indicates the decision making process regarding the research paths followed.
> Indicates the potential explanatory factors of the findings.
 - - - -> Indicates how the findings of one part of the study may explain the findings of another.
 * In stage 1, 238 companies were examined, stages 2 and 3 use 153 companies.

1.4.1 Contribution to the literature exploring the financial statement effects of transition to IFRS

To facilitate a better understanding of the impact of transition, this thesis provides an in-depth comparison of the *de jure* differences between Greek GAAP and IFRS. To the best of the author's knowledge, there is no such recent comparison available in the English language academic literature.

This thesis also contributes to the academic literature on international GAAP comparisons by extending the use of Gray's comparability index (Weetman et al., 1998) to key ratios and by contributing to the discussion of its limitations. By measuring the impact of transition by means of a commonly applied index, the analysis also provides a benchmark for comparison with studies examining the impact of mandatory transition in other countries, especially those with stakeholder accounting regimes such as Germany, France and Italy (cf. Spathis and Georgakopoulou, 2007; Bellas et al., 2008).

The identification and examination of the accounting standards which had the strongest economic impact on shareholders' equity on transition to IFRS provides an answer to the question *why* changes occurred. In particular, this research explores the question of whether introduction of IFRS curtailed creative accounting practices previously followed in Greece.

This will provide insights for future comparative research on the survival of differences in accounting practices and *de facto* harmonisation (Nobes, 2006). This contribution is expected to be of particular relevance to companies, investors, auditors, regulators and the IASB.

1.4.2 Contribution to the literature on compliance with IFRS mandatory disclosures after 2005

One of the main objectives of the IASB is to produce enforceable standards (IASCF Constitution, paragraph 2). This is stressed because it is well documented that

companies do not comply with accounting standards' mandatory disclosures (e.g. Ali et al., 2004; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003; Akhtaruddin, 2005; Hodgdon et al., 2008) and thus the implementation of high quality standards [as IFRS claim to be] may not necessarily lead to high quality reporting (Ball et al., 2003).

Following the above mentioned evidence and the fact that the existence of legislation and enforcing bodies does not guarantee compliance (Yeoh, 2005), the possibility of uniform application of IFRS across different jurisdictions has been questioned (Ball, 2006; Nobes, 2006; Larson and Street, 2004; Soderstrom and Sun, 2007; Zeff, 2007; Weetman, 2006).

The present study addresses this problem in the Greek context where low enforcement and low audit quality have been documented. Based on two disclosure index methods, it examines 153 Greek listed companies' compliance with all IFRS mandatory disclosures during the first year of their implementation. This sample represents approximately 48% of companies listed on Athens Stock Exchange (ASE) at the end of March 2006.

To the best of the author's knowledge, this is the first large scale single country academic study which examines companies' level of compliance with all IFRS mandatory disclosures after their implementation in 2005 in EU countries. The results are expected to be of particular interest to regulators and standard setters, as well as to academics who may wish to conduct similar studies.

1.4.3 Contribution to the literature on the methods for measuring compliance with accounting standards' mandatory disclosures

The most common approach for determining compliance with disclosure requirements by a company is that of the unweighted disclosure index where compliance is calculated as the ratio of the total items disclosed to the maximum possible score applicable for that company (e.g. Hodgdon et al., 2008; Ali et al., 2004; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003; Street and Gray,

2001; Street and Bryant, 2000; Craig and Diga, 1998; Patton and Zelenka; 1997; Cooke, 1996; Ahmed and Nicholls, 1994; Wallace et al., 1994). For reasons explained in section 4.6.2, this study refers to this method as ‘Cooke’s dichotomous approach’. (Aljifri (2008) also refers to this method by using the same term.)

However, this kind of disclosure index has an important limitation: the number of disclosure items required by different standards varies considerably. Some standards require a large number of items to be disclosed (e.g. IAS 1 ‘Presentation of financial statements’) while some others require only a few (e.g. IAS 2 ‘Inventories’). This may become a significant problem when studies examine compliance with IFRS (or other sets of standards’) mandatory disclosures.

An alternative method that avoids this problem is the ‘Partial Compliance (PC) unweighted approach’ (hereafter PC method) employed by Street and Gray (2001)⁹ and Al-Shiab (2003, 2008). According to this approach, ‘the degree of compliance for each company is measured by adding the degree of compliance for each standard and then dividing this sum by the number of standards applicable to each company’ (Al-Shiab 2003, 223).

Street and Gray (2001) use both methods but do not test the significance of the differences in the compliance scores identified. Interestingly, they find different significant associations under each method between the dependent variable (compliance score) and a number of independent variables. This study uses both methods and tests the significance of the differences in the compliance scores identified. Additionally, it explores the implications of the application of both methods with regard to the factors appearing to explain compliance with IFRS mandatory disclosures. To the best of the author’s knowledge this is the first study to perform such analysis. In contrast to Street and Gray (2001), this study considers as valid findings only those factors that appear to be significant under both methods.

The findings illustrate the following. The scores calculated under the PC method are significantly lower from those calculated under Cooke’s dichotomous approach;

⁹ The results of this study have also been published in 2002: Street and Gray (2002).

similar to Street and Gray's (2001) study, not all factors appearing to explain compliance scores under the PC Method are the same as those appearing significant under Cooke's dichotomous approach.

To provide more insights about this issue, the present study provides alternative tests by excluding IAS 1. IAS 1 is excluded for the following reasons: it contains the largest number of items required to be disclosed; prior studies which tested compliance with selected standards typically included it in their analysis (e.g. Al-Shammari et al., 2008); and the standard does not require complex disclosures related to recognition and/or measurement issues and thus most companies tend to comply with its requirements (e.g. Al-Shammari et al., 2008).¹⁰ The supplementary findings illustrate that the two methods continue to produce significantly different compliance scores (albeit less diverged). Additionally, different factors continue appearing to explain compliance scores across the two methods.

Subsequently, these findings should alert researchers who plan to use these methods to the implications of their own findings and the care that needs to be taken in their interpretation. It is suggested that simultaneous application of both methods produces more robust findings than using only one of the two. These findings also raise an opportunity for further research by questioning the validity of the findings of prior research which applied only one of the two methods. The findings of similar studies may be substantially biased because of the method employed for measuring compliance.

1.4.4 Contribution to the literature on the applicability of disclosure theories when examining compliance with mandatory disclosures

Chapter 4 examines compliance with IFRS mandatory disclosure requirements. It does not explore issues related to voluntary disclosures. This distinction is important for the development of hypotheses as well as for the inferences to be drawn.

¹⁰This argument is consistent with the findings of the present research.

Mandatory disclosures are more comparable across companies and are measured more in the light of the standards' requirements and less in the light of the potentially subjective disclosure index that researchers may have constructed. Additionally, mandatory disclosures force companies to 'talk about current cash flows, profits, net assets and ownership claims rather than firms' aspirations for future success' (Leuz and Wysocki, 2008: 68). Thus, to some extent, the presence or absence of 'anticipated' disclosures may provide different signals to investors (Hassan et al., 2009) compared to the presence or absence of voluntary disclosures. This may prompt managers to act differently from the way they would for voluntary disclosures. In fact, the disclosures provided depend on companies' attitudes towards compliance with the regulation, i.e. *companies' 'compliance culture'* (Jenkinson, 1996).

Adams (1994: 279) defines compliance as 'the management of regulatory risk — the risk that a rule or regulation will be broken' and explains that this risk has many elements (e.g. financial risk, litigation risk, risk of regulatory engagement and reputation risk). Accordingly, managers observe and assess these before making decisions on compliance. An important factor in this process is also the level of enforcement in each country. If enforcement is low and costs of non-compliance are negligible, as is the case in Greece at the time of this study, one could treat the mandatory disclosures as voluntary.

Yet, as explained by Dye (2001: 184) 'there is, presently, no received theory on mandatory disclosures in accounting'. On that basis and considering all the above arguments and limitations, this study draws upon theories of voluntary disclosures to explore the potential factors that may explain the level of compliance identified. Thus, in line with prior studies (e.g. Abd-Elsalam and Weetman, 2003; Hodgdon et al., 2008; Hassan et al., 2006; Ali et al., 2004), drawing on capital market based theories, agency theory, and cost based theories, this study tests several variables as proxies for the factors related to the compliance identified. These factors include size, gearing, profitability, liquidity, industry and audit firm size.

Beyond this, the present research complements and extends prior literature in the following way. The unique setting, i.e. measuring compliance with IFRS mandatory disclosures during the first year of implementation, allows also for examination of the possibility that the change in the 2004 shareholders' equity and net income, as a result of the adoption of IFRS, constitute also explanatory factors for compliance. Thus, this study hypothesises that *inter alia* not only financial measures can be proxies for explaining compliance as derived by relevant theories. It argues that, in addition, a significant change in fundamental financial measures, because of the change in the accounting regime, may also explain compliance.

Research has indicated that information reported in reconciliation statements is perceived as meaningful by investors (e.g. Christensen et al., 2007), who are considered to be among the main users of financial statements by the IFRS *Framework* (paragraph 10). Therefore, the behaviour of managers regarding the amount of overall disclosures provided may be influenced by the impact of IFRS on company key measures, as this can be assessed through the reconciliation statements and the 2004 restated comparative figures. (With reference to the arguments of Adams (1994) regarding the risks assessed by managers before making decisions on compliance (see above)).

The following example illustrates the rationale behind this investigation. As discussed above, Greek companies' net income and shareholders' equity were expected to be affected considerably from the introduction of IFRS. Thus, on the grounds of signalling theory, companies which faced a positive impact on their reported financial position on transition to IFRS would be more tempted to provide higher levels of mandatory disclosures so as to 'screen' themselves. This would allow them, indirectly to argue that their worse position under Greek GAAP was a result of the 'poor quality' of accounting rules, rather than a result of bad management. This would result in the impact reported in the reconciliation statements with regard to this measure to be positively associated with companies' levels of mandatory disclosures. (Further propositions are discussed in section 4.5).

In summary, theories relevant to voluntary disclosures are employed and analysed in this study in relation to mandatory disclosures. This, and the findings of prior literature, assists in deriving possible factors associated with compliance of IFRS disclosure requirements and forming testable hypotheses. However, in addition to what has been suggested in the prior literature, this study is informed by the specific timing of the investigation (i.e. first year of IFRS implementation). Testing these hypotheses fills the gap in the literature regarding the factors associated with non-compliance with IFRS disclosure requirements in European countries, especially after IFRS mandatory implementation in 2005.

1.4.5 Contribution to value relevance research and valuation theory using the Ohlson (1995) model (OM)

1.4.5.1 Contribution to relative association studies and transition to IFRS

As discussed above, IFRS consider investors as the main users of financial statements. They are not debt and tax oriented as traditionally are the accounting regulations in code law or continental European countries (and as is Greek GAAP). Supposedly, IFRS reflect economic gains and losses in a more timely fashion and provide more useful balance sheets compared to the accounting rules governing continental European countries (Ball, 2006; Barth et al., 2008). This has led to the expectation that accounting figures would become more value relevant in a country which ‘switches’ to a shareholder oriented system, such as IFRS.

Recent research tests this proposition (e.g. Capkun et al., 2008; Paananen, 2008), with mixed findings. One part of the present study adds to this literature by implementing the Ohlson (1995) model (in its most commonly employed form – see below), examining the pre-and post-IFRS period relative value relevance in Greece.

By testing the proposition for higher value relevance in the particular stakeholder and tax driven accounting environment of Greece, this study contributes to the debate on whether shareholder-focused accounting principles are more value relevant than the traditional extensive and complex continental European accounting regulations (e.g.

Ali and Hwang, 2000). This analysis also responds to Healy and Palepu's (2001: 431) question: 'What types of standards produce high quality financial reports'. (Defining accounting quality as the relationship between book values and market values. The closer the relationship the higher the accounting quality (Barth et al., 2008)).

This analysis is partitioned across sub-samples of large and small companies and companies with 'Big 4' versus non-'Big 4' auditors. This allows the identification of factors which may affect value relevance of accounting information (i.e. firm size and audit quality) in Greece.

1.4.5.2 Contribution to incremental association studies and transition to IFRS

Another stream of the literature examines the incremental value relevance of an accounting item (e.g. Amir et al., 1993; Harris and Mueller, 1999; Hung and Subramanyam, 2007). Accordingly, these types of incremental association studies investigate 'whether the accounting number of interest is helpful in explaining value ... given other specified variables' (Holthausen and Watts, 2001: 6). Biddle et al. (1995) illustrate that relative value relevance and incremental value relevance are two distinct concepts. Two measures may be incrementally value relevant with respect to each other although resulting in no differences in relative value relevance (Hung and Subramanyam, 2007).

A later part of this study adds to the literature on incremental association studies in general and to those with a specific focus on the transition to IFRS in particular (e.g. Horton and Serafeim, 2009; Capkun et al., 2008; Schadewitz and Markku, 2007). By decomposing the 2005 book value of shareholders' equity, it examines the incremental value relevance of the reconciliation adjustments reported in the first IFRS financial statements. With regard to the transition of Greek listed companies to IFRS in particular, this analysis illustrates whether the adjustments expected to curtail creative accounting are perceived as value relevant by investors. Additionally, since the relevant research hypothesis tests the significance of the adjustments reported within the reconciliation statements, it indirectly tests the usefulness of the

reconciliation statements. If the balance sheet adjustments are indeed value relevant, the reconciliation statements provide useful information to investors.

This analysis is partitioned across sub-samples of large and small companies. It cannot be examined across the partition of companies regarding audit quality due to the relatively small number of companies with ‘Big 4’ auditors (see 5.5.4 for details).

1.4.5.3 Contribution to the theory of valuation with linear information dynamics (LID)¹¹ and to the literature examining the valuation implications of mandatory disclosures

Ohlson’s (1995) model (hereafter OM) of current accounting data and estimates of ‘linear information dynamics’ is defined as follows:¹²

$$P_{jt} = a_0 + b_1 B_{jt} + b_2 X_{jt} + b_3 v_{jt} + \varepsilon_{jt} \quad (\text{Eq. 1.1})$$

where P_{jt} stands for the value of a company, B_{jt} is the book value of shareholders’ equity, X_{jt} net profit and v is ‘other information’ being available to market participants not yet captured by accounting (i.e. events that have not yet affected B and X) (Myers, 1999), and ε_{jt} is the mean zero disturbance term.

The most common way in the literature to employ OM is by omitting the ‘other information’ (v) term which captures ‘other information’ relevant to forecasting the future (Ohlson, 2001). Ohlson (2001) explains that excluding v from the equation makes the model ‘patently simplistic’ because assuming v is zero implies that what matters in the setting of market values is only the publicly available information of the book value of shareholders’ equity and net income. Expectations or information about future prospects and future income which essentially are not recognised in the financial statements are ‘heroically’ assumed to be of no relevance. This may lead to

¹¹ Richardson and Tinaikar (2004: 226) define LID as ‘linear stochastic processes exhibiting the temporal evolution and interdependence of accounting and non accounting information variables. The LID provide forecasts of future expected abnormal earnings given the current realisations of accounting variables and other information’.

¹² Section 5.3 explains how Ohlson (1995) derives this equation.

potentially inaccurate conclusions regarding the coefficients of the variables included in the model (Hand, 2001; Lo and Lys, 2000a).

Some researchers have responded to this concern by introducing several variables as proxies for ‘other information’. Some examples include (analyst forecast dispersion in the US (Bryan and Tiras, 2007); compliance with Corporate Governance Code in Germany (Goncharov et al., 2006); network advantages in the US (Rajgopal et al., 2003).

Another stream of (non-relative association) studies has indicated that companies’ disclosures affect market prices and/or the predictability of earnings and improve analysts’ forecasts (e.g. Lundholm and Myers; 2002; Hope, 2003(a&b); Hussainey and Walker, 2009). However, some studies either focus on voluntary disclosures alone or use companies’ disclosure ratings published in the report of the Association for Investment Management Research (AIMR)¹³ or the Centre for International Financial Analysis and Research (CIFAR). These ratings have the limitation that they are based on both mandatory and voluntary disclosure items (Bushman et al., 2003).

The final part of this study builds on the two streams of literature and extends them in the following two ways. First, it implements the OM by introducing in the above equation the level of compliance with IFRS mandatory disclosures (see chapter 4) as a proxy for ‘other information’ (i.e. the ν term). Second, the valuation differences of high compliance versus low compliance companies are explored.

The contribution of this exploration is threefold. *First*, it fills the gap in the literature regarding the valuation implications of mandatory disclosures (cf. Leuz and Wysocki, 2008; Bushee and Leuz, 2005). More specifically, it provides direct empirical evidence in relation to firm value and level of mandatory disclosures (Hassan et al., 2009; Kang and Pang, 2005). *Second*, the first approach, indirectly and in combination with the reference to Nobes and Parker (2008: 195) above,

¹³ Lang and Lundholm (1993, 1996) and Healy and Palepu (2001) provide details about the AIMR-FAF disclosure ratings.

reflects on Hand's (2001: 125) call for future research where he suggests the exploration of inferences regarding the value relevance of v by looking at voluntary disclosures. Thus, this thesis also addresses the criticism that omitting v (i.e. 'other information') from the model leads to a simplistic (Ohlson, 2001) and, arguably, 'an incorrect' (Lo and Lys, 2000a) implementation of it.¹⁴

Finally, it addresses Verrecchia's (2001: 174) call for future research who urges empirical, disclosure related, research and suggests 'that researchers consider less developed capital markets than those found in the US' (ibid: 175).

1.5 Ontology and Epistemology

To address the above mentioned research objectives, the present research follows a realist ontological standpoint as it examines 'how things really are' and 'how things really work' and not 'how things should be' (Crotty, 1998: 10). In the accounting research area, this approach is better represented by a positivistic epistemology where explanation and prediction are mainly stressed instead of prescription, which is a characteristic of normative research (Ryan et al., 2002).

More specifically, the study follows the functionalist paradigm¹⁵ in accounting research by adopting a positivistic epistemology. According to Burrell and Morgan's (1979) accounting research framework, this paradigm views accounting phenomena as 'concrete real-world relations possessing regularities and causal relationships that are amendable to scientific explanation and prediction' (Belkaoui, 1996: 10). This view is integrated with the development of positive accounting theory known as the 'Rochester School of Accounting' which supports that theories should explain actual

¹⁴ Arguably, compliance with IFRS' mandatory disclosure requirements is accounting data and thus considered not to be suitable proxy for 'other information'. However, the disclosures required by IFRS deal *inter alia* with 'revealing events, transactions, judgements and estimates underlying the financial statements and their implications' (Kang and Pang, (2005: 6), with reference to Pownall and Schipper, 1999). This information is important for forecasting the future of a company and/or its competitors. It also results in 'real' or 'financial' externalities (Dye, 1990). More discussion is provided in section 5.4.2.3.

¹⁵ The remaining three paradigms presented by Burrell and Morgan (1979) are rejected because either their ontological and epistemological standpoints contradict with the present study's research objectives or they suffer from major limitations (for further discussion see Belkaoui, 1986).

accounting practices, i.e. why accountants behave as they do (Jensen, 1983: 319) in terms of goal-oriented, rational and utility-maximizing behaviour.

However, positive theory has two major limitations. On the one hand ‘theories are a simplification of reality and the world is complex and changing’, (Watts and Zimmerman, 1986, cited in Abd-Elsalam, 1999: 19) and on the other hand, even close relationships between objective facts and selected variables do not provide causality, so positive theory cannot predict perfectly. That is why one major criticism of positive accounting theory is that empirical science makes no positive statement of ‘what is’ (Belkaoui, 1996: 58).

In the present research, the positivistic epistemology is portrayed in Popper’s hypothetico-deductive four-stage model characteristic of scientific knowledge where ‘each of the stages contains an inner logical motivation to go on to the next stage’ (Popper, 2007: 15):

- *The (old) problem or problem situation.* Here, the problem situation under discussion is the mandatory adoption of IFRS by Greek listed companies.
- *Formation of tentative theories.* The mandatory introduction of IFRS in Greece (and other EU countries) since 2005 effectively introduces a new era which possibly will create new theories with regard to implementation of accounting regulation. Illustration of the problem’s background, as well as reviewing the relevant literature, illuminates the knowledge we possess prior to the investigation (i.e. *a priori* knowledge, *ibid*: 69) with regard to the issue under examination. However, the discussion of the background to the problem situation together with the literature review are not self-sufficient and do not provide evidence for developing concrete theories. On that basis, a gap in the literature is identified and the relevant hypotheses are formed.
- *Attempts at elimination through critical discussion, including experimental testing.* At this stage, the hypotheses are tested and effectively idealism is set against realism. In particular, it is tested whether the ‘*a priori* knowledge’ of the

subject is only an adaptation to a partly unknown environment i.e. consists of potential expectations.

- *The new problems that arise from the critical discussion of our theories.* At this stage, the ‘*a posteriori* knowledge’ which is the result of the empirical tests, sheds light on and complements the ‘*a priori* knowledge’ and possibly reveals the latter’s weaknesses.

From the discussion regarding the objectives of this study it becomes apparent that quantitative research is chosen as the most appropriate approach for testing the tentative theories (where relevant). This is in line with the positivistic approach described above and with Wolin (1973) who states that ‘methods and techniques are dependent upon epistemological justifications’ (cited in Hughes and Sharrock, 1997: 12). This is also in line with Creswell (2003: 21) who argues that ‘if the problem is identifying factors that influence an outcome, or understanding the best predictors of outcomes, then a quantitative approach is best’.

1.6 Data and Sources

1.6.1.1 Quantitative data

To provide an answer to the first research question, the present study uses information relating to 238 Greek listed companies (section 3.5.3 explains the sample selection process). This represents approximately 75% of the Greek listed companies in March 2006. This sample consists of 193 companies publishing consolidated accounts and 45 publishing individual accounts. As explained in section 4.6.1, to provide answers to the remaining 5 research questions, 153 companies (of the 238) are utilised.

The 2004 financial statements (under Greek GAAP), the 2005 and 2006 market values, as well as the publication dates of the financial statements, were acquired from the ASE in electronic format. The company data contained all line items of the statements for each listed company. Then, the 2005 financial statements were

downloaded from the ASE website. From these, the comparative figures referring to the 2004 accounts under IFRS, the 2005 figures under IFRS and the adjustments from the reconciliation statements were captured ‘by hand’ and transferred to a spreadsheet for analysis.

1.6.1.2 Supplementary qualitative data

In addition to the quantitative analysis, five personal key informant interviews were conducted. Four in person in Greece: with a senior employee of the Hellenic Capital Market Commission (November and December 2006), with a senior credit officer of a large bank, and with a member of the Committee of Accounting Standardisation and Auditing (ELTE) (both June 2007). One was conducted by telephone with a senior manager of Grant Thornton, in December 2006. These were intended to provide additional background information to allow for better contextualising of the findings. Such information provided is referenced either within the text or by means of footnotes.

1.7 Limitations

The main limitations¹⁶ of this thesis can be summarised as follows.

The impact reported in the reconciliation statements with regard to the transition to IFRS may be affected by creative accounting practices followed before and/or during the period of transition. It may also be affected by preparers’ non-familiarity with IFRS which may lead to misinterpretation of the standards’ requirements and subsequently improper implementation.

Although the necessary procedures were followed, measuring compliance with mandatory disclosures always entails a degree of subjectivity. This may hinder replication of the research in a consistent way by other researchers.

¹⁶ Each empirical chapter contains a section devoted to discussion related to the limitations attributed to the analyses discussed therein.

In common with similar value relevance studies, it is assumed that investors understand and evaluate the implications and effects of IFRS. This may not be (completely) the case where IFRS are introduced for the first time in a country with a substantially different accounting tradition. Additionally, selective or incomplete reporting/disclosure may mislead investors unfamiliar with the new regime.

The sample is not randomly selected. Although the necessary controls have been followed regarding the value relevance part of this study (i.e. chapter 5), it remains a limitation regarding chapters 3 and 4.

1.8 Organisation of the Study

The organisation of the study follows the research paths illustrated in Figure 1.1. As discussed above, the key issues tackled in this study are informed by different streams of literature and theoretical underpinnings. One distinctive characteristic of this thesis is that it explores links between these issues (see end of section 1.1). Accordingly, all empirical chapters include reviews of the relevant literature and theoretical frameworks and no separate chapter ‘literature review’ chapter exists.

Chapter 2 discusses the Greek socio-economic context as a basis for an understanding of the factors which had affected the Greek accounting environment and may continue to do so after the adoption of IFRS.

Chapter 3 discusses the *de jure* differences between IFRS and Greek GAAP and explores the impact from transition to IFRS on Greek listed companies’ first IFRS statements. This provides an answer to the first research question (Q1).

Chapter 4 discusses the analysis of Greek listed companies’ compliance with IFRS mandatory disclosure requirements and identifies the explanatory factors for (non) compliance. This analysis and discussion provide answers to the second and third research questions (Q2 and Q3).

Chapter 5 provides answers to the remaining three research questions (Q4, Q5, and Q6). It examines the issues relating to the value relevance of accounting information

in Greece. In particular, it provides an analysis of the value relevance of accounting information before and after IFRS' implementation. It explores whether the adjustments provided in the reconciliation statements were incrementally value relevant to the 2005 figures. Additionally, it explores the valuation implications of IFRS mandatory disclosures.

Chapter 6 forms the concluding remarks of the thesis. A summary of the research questions, objectives, and methods is initially provided. Then, a summary of the key research findings and their implications is discussed. The summary of the limitations of the study follow. Finally, opportunities for further research are highlighted.

Chapter 2 - The Greek Accounting Environment

2.1 Introduction

‘Accounting is the process of identifying, measuring and communicating financial information about an entity to permit informed judgements and decisions by users of the information’ (American Accounting Association, 1966 cited in Weetman, 2003: 4). An ‘accounting system’ is defined as ‘the set of financial reporting practices used by a particular company for an annual report’ (Nobes and Parker, 2008: 25). Several studies have examined the influences of specific socio-economic factors on the development of the accounting system of a country so as to explain the international differences in financial reporting (e.g. Mueller, 1967; Seidler, 1967; Da Costa et al., 1978; Nair and Frank, 1980; Nobes, 1983; Gray, 1988; Nobes, 1998; D’Arcy, 2001).

Following along these lines, this chapter reviews the factors that have affected and continue to affect the Greek accounting system. It discusses the particular features and provides the necessary insights on the ‘national [Greek] accounting traditions [that] are likely to continue into consolidated reporting where scope for this exists within IFRS rules’ (Nobes, 2006: 235), and which will provide opportunities for ‘the survival of accounting differences’ (ibid), at least across the EU.

Accordingly, this review sheds light on the specific factors that may exert an influence on the issues tackled in this study, i.e. impact on transition to IFRS, compliance with IFRS mandatory disclosures as well as value relevance of accounting information. Thus, in combination with the corresponding theories (where relevant), this review forms the basis for the development of the research hypotheses in the next chapters as well as the interpretation of the empirical findings.

It has to be noted that the objectives of this thesis are broader than focusing only on disclosure practices. Thus, the analysis is not provided only against a framework focusing on the factors determining financial disclosure regulation and its environment (e.g. Cooke and Wallace, 1990) or on an ‘international financial disclosure model’ (e.g. Jaggi and Low, 2000).

2.2 The Country

Greece is located in the south-eastern part of Europe. It has a population of approximately 11 million (official data refers to 2001, General Secretariat of National Statistical Service of Greece¹⁷) and covers an area of approximately 132,000km². Although its roots can be traced back to the 11th century BC, the Greek autonomous State was formed in 1828, preceded by approximately 400 years of Ottoman rule (1453-1820s). To gain independence from the Ottoman Turks, the Greeks sought support from the Western ‘Great Powers’ of that time (Britain, France and Russia). These powers exercised significant influence in the development of the new State by providing finance as well as imposing a monarch well after the assassination of the first elected governor (Ioannis Capodistrias) in 1831. This, together with the country’s geographically strategic position, resulted in the socio-economic context of Greece continuing to be influenced by the ‘Great Powers’ well after that period. This was also the case in the 20th century since political and economic stability was not feasible in the country for long periods. Greece participated in the Balkan Wars and in the 1st World War. The latter was followed by a period of dictatorship. During the 2nd World War Greece was under German rule, until 1944. This was followed by a five year civil war (late 1944 to 1949) and the military dictatorship of the Junta from 1967 to 1974.

Caramanis (2005) and Ballas (1998) argue that even nowadays Greek culture, politics and economics remain affected by a duality of Eastern and Western influences; in particular, the contrast remains between ‘a ‘modernising’ reform-minded, Westward-looking, pro-liberal culture and an ‘underdog’, Eastward-looking, anti-reform and pro-statist culture’ with ‘nationalist and xenophobic overtones’ (Caramanis, 2005:202-3¹⁸). During the last two decades, the traditional state corporatism has been modified by modernisation and neo-liberal, free market influences (Caramanis, 2005). Ballas et al. (1998, with reference to Doukas, 1993) stress the political significance of EC membership in 1981 in the transition to

¹⁷ http://www.statistics.gr/gr_tables/hellas_in_numbers.pdf, last accessed 03/04/2009.

¹⁸ With reference to prior literature: Diamantouros (1993); Faubion (1993); Herzfeld (1987, 1993); Mouzelis (1978, 1986, 1995).

democracy in that harmonisation of legislation and institutions limits opportunities for diversion from Western norms. However, the ‘underdog’ influence has by no means disappeared (Caramanis, 2005).

2.3 The Legal System

The legal system belongs to the code (or Roman) law family. Historically, Greek accounting and commercial law have been strongly influenced by French precedents and developments (Ballas, 1994; Ballas et al., 1998). In 1980, in order to facilitate ascension to EU membership, Greece adopted a General Accounting Plan closely based on the French *Plan Comptable*; this was amended in 1987 in accordance with the 4th and 7th EU directives¹⁹ (Ballas, 1994; see also Venieris, 1999).²⁰ Ballas et al. (1998:278) suggest that ‘the Greek Accounting Plan was addressed to an international audience while domestic affairs of taxation and its related bookkeeping remained an exclusively Greek domain’. In fact, with regard to accounting regulation, ‘the Greek state has demonstrated a remarkable degree of autonomy from societal interests’ (Ballas et al., 1998: 274). Interest groups are weak, and professional bodies’ interest is indirect, through members with government responsibility (ibid.; see also Venieris, 1999²¹).

Patronage has been a feature of the Greek state, bringing with it a lack of trust and a perception that it is pursuing sectional, rather than the public interest. This leads to ambivalent behaviour by its citizens: a pursuit of state favour as well as attempts to cheat the system (Ballas et al., 1998, with reference to Charalambis, 1996 and Tsoukalas, 1993). Thus, Greece represents a low trust society, which is detrimental to self-regulation of accounting or trust in the ‘true and fair view’ of financial statements, but requires state regulation and extensive rules which, however, increase monitoring costs and distrust (Ballas et al., 1998). This leads to ‘formalism’, which is

¹⁹ The implementation of the 7th Directive came into force in 1990. There was no previous legal requirement for group accounts (Papap, 1993).

²⁰ Significant differences between Greek and French accounting plans exist in particular in the objectives: in France these are still largely the collection of macro-economic data, in Greece fiscal objectives (Ballas et al., 1998).

²¹ Venieris (1999) provides an overview of the accounting rule-making process and the agencies involved in accounting rule-making in Greece.

‘defined as an excessive adherence to prescribed forms and the use of forms without regard to inner significance’ (Ballas et al., 1998: 279). These characteristics have been identified in Greek accountants by Tsakumis (2007) as being representative of their national culture (with reference to Hofstede (1980), but see below).

2.4 Taxation, Creative Accounting and the Role of Culture

The taxation system in Greece is ‘a nebulous system of conflicting laws, court decisions and ministerial decisions, which clearly panders to special interests’ (Ballas, 1994: 110). Financial reporting is traditionally closely linked to taxation (Michalatos, 2001; Tzovas, 2006) with the major link being Tax Law (Presidential Decree 186/92²² - also known as *Code of Books and Records*).

The close link between accounting and taxation and the fact that taxes are perceived to be unfairly high, result in tax avoidance and evasion as well as creative accounting (Baralexis, 2004).²³ As an example, Tsakumis et al. (2007) document that Greece’s underground economy was estimated to equal approximately 40% of the Gross Domestic Product — the largest in the European Union, in 1997. Tsakumis et al. (2007) find *inter alia* that a country’s profile with high tax avoidance is characterised by high uncertainty avoidance (cf. Hofstede, 1983, see also below). The most common example of tax avoidance is the tendency not to recognise provisions until they materialise since they are not deductible for tax purposes (Vlachos 2001, with reference to Caseley, 1996).

Papas (1993) suggests that, for this reason, where company law and tax law are in conflict, accountants tend to follow the latter. Another reason for companies following the tax law requirements is the strict fines the tax authorities impose for non-compliance. In contrast, non-compliance with company law requirements does not result in strict penalties. In fact, the penalty is a qualification in the audit report

²² Laws and legal decrees are referred to by their number (e.g. 186) followed by the year in which they were originally passed (e.g. 92, which refers to 1992).

²³ See Ballas et al. (1998) for a critical interpretation of the Greek state’s utilisation of accounting books for tax collection purposes.

(Papas, 1993) which is usually disregarded (see also below). Filios (1995: 94, cited in Vlachos, 2001: 81) states:

‘...since 1920 there has not been a penalty imposed on any accountant for failing to comply with the regulations’.

Greece is the country with the highest score for uncertainty avoidance in Hofstede’s (1983) study. Gray (1988) classifies Greece in the group of ‘Near Eastern’ countries whose main characteristics are: strong conservatism and secrecy as well as statutory control and uniformity. Although Greece is expected to have moved to different accounting values (Leventis, 2001 with reference to Loutridis, 1999) uniformity and secrecy are still considered to be high (cf. Tsakumis et al., 2007).²⁴ This and the above examples relating to tax avoidance may provide some support to Nobes’ (1998: 175) argument that culture may ‘be seen as one of the background factors’ affecting more direct factors of the development of an accounting system in a country in general and in Greece in particular.

Creative accounting and earnings management practices are indeed well documented in the literature (Polychroniadis, 2002; Spathis, 2002; Spathis et al., 2002; Leuz et al., 2003; Baralexis, 2004; Caramanis and Spathis, 2006; Burgstahler et al., 2006). In fact, Leuz et al. (2003) classify Greece (along with Austria) as the country (out of 31) with the highest earnings management.

While overstatement is more common, understatement also occurs (Baralexis, 2004). Ghicas et al. (2008: 514) provide an example of the magnitude of the impact of the creative accounting practices. For a sample of 149 firms, if the impact of the audit qualifications had been recognised in the prior year, it ‘would have reduced median reported earnings by 21% and book value of shareholders’ equity by 4.4%’. This becomes particularly relevant when considering the frequency of qualified audit reports (see below).

²⁴ Hofstede’s conclusions have to be treated with caution for several reasons. One of those reasons is that almost thirty years have passed since the publication of ‘Culture’s Consequences’ (1980) and the assumption of stability of cultural differences lacks conviction (Baskerville, 2003).

This background explains why banks do not rely on the information reported in the financial statements for lending decisions. They are lending on the companies' ability to provide collateral instead (Filios, 1995).

Ownership concentration is high and owners are directly involved in companies' management. They are therefore able to monitor and motivate staff without the need for incentive schemes. There is also less need for financial statements as a means of communication with owners (Tzovas, 2006). (This is an important issue in the context of IFRS adoption because they require more extensive disclosures than Greek GAAP.) As a result, ownership concentration 'contributes to the adoption of an aggressive tax-reducing strategy, since their ownership status does not appear to generate significant non-tax costs'. Tax adjustments (such as accelerated depreciation) in financial statements (Venieris, 1999) further distort companies' results. In addition (and as is also the case in other code-law countries), the demand for accounting income is strongly influenced by the payout preferences of various stakeholder groups. Because these stakeholders prefer less volatile earnings, companies in code-law countries tend to have greater scope for income smoothing (Spathis and Georgakopoulou, 2007, with reference to Ball et al., 2000 and to Guenther and Young, 2000).

Here lies the basis of the contributions of the present study. Many of the creative accounting practices applied under Greek GAAP were expected to be curtailed by the introduction of IFRS (see section 3.5 for a detailed discussion).²⁵ This, combined with the increase (see below) in mandatory disclosures introduced by IFRS, was expected to improve financial reporting quality in Greece. According to prior value relevance research (e.g. Barth et al., 2008), this improvement should also be reflected in the relationship between book values and market values (providing that the investors rely on the information reported in companies' financial statements for making their investment decisions).

²⁵ Although, as suggested by Nobes and Parker (2008: 147), some of these tax-driven accounting choices might flow through to IFRS financial statements, since unconsolidated financial statements are still prepared under national (Greek) GAAP.

2.5 The Profession

As was pointed out earlier, the accounting/audit profession is relatively young and weak (Baralexis, 2004). Ballas et al. (1998) suggest that capital was not involved in the decision to create the initially ‘quasi-civil service’ (Ballas, 1994: 116-7) auditing profession,²⁶ but rather that the state was the main constituency for audit services, which were perceived as ‘a technology that could help the state root out dishonest business practices and increase tax revenues’ (Ballas, 1998: 716) and as ‘an instrument of social control’ (ibid.: 733). Auditing was, until reformed in 1992 not effective, with auditors subjected to management pressure (Baralexis, 2004), very limited auditor liability (until 2000) (Baralexis, 2004) and qualified audit reports being disregarded (Ballas, 1994: 117). Subsequently, the jurisdiction of the statutory audit has been opened to private audit firms, including international firms (see Ballas, 1994, 1998; Caramanis, 2002). Since then the audit market has grown considerably and is subject to fierce competition (Leventis and Caramanis, 2005; Leventis et al., 2005). However, the effectiveness of auditing has recently been questioned, leading the profession to take new regulatory measures (Leventis and Caramanis, 2005).

In 2003 ELTE was established (Law 3148/03). This Committee reports to the Minister of Finance and National Economy and deals *inter alia* with professional ethics, audit quality and accounting regulation implementation guidance. Its activities are carried out by the Board of Accounting Standardisation and the Board of Audit Quality (Art. 1-5). However, Kontoyannis (2005) argues that the system is still not effective.²⁷ For example, nearly half of all listed companies’ audit reports for the recent 2006 financial statements were qualified (Grant Thornton, 2007), suggesting that a qualified audit report does not constitute an effective sanction. (Although this suggests an improvement compared to 2001, when nearly 90% of 185 listed companies sampled received a qualified audit report (Caramanis and Spathis, 2006)).

²⁶ In fact, when a statutory audit requirement was introduced for listed companies in 1959, 40 out of 76 companies delisted (Ballas, 1998).

²⁷ This was also confirmed by two of the key informant interviewees.

In fact, Caramanis and Lennox (2008) demonstrate that earnings management is related to audit firm size in Greece.

2.6 Business Enterprises and Financing System

Greek company law recognises two main types of company: the Anonymi Etaira (AE, approximately comparable to the French Société Anonyme and German AG) and the Etairia Periorismenis Efthynis (EPE - approximately comparable to the UK Limited Liability Company, French Sarl and the German GmbH) (Ballas, 1994; Vlachos, 2001). To be listed on the Stock Exchange a company has to be an AE. The Company Law that governs AEs is Law 2190/20. This Law succeeded the Commercial law adopted in 1835 which was heavily based on the French Code. Since then, this has been updated through several presidential decrees, the Greek Accounting Plan and most notably with incorporation of the 4th and 7th Directives mentioned above.

Management performance is poor with losses common, leading to a need ‘to raise funds (especially working capital) from the debt-orientated capital market’ (Baralexis, 2004: 443, with reference to the Federation of Greek Manufacturing, 1999). Banks are the main capital providers for Greek companies (Venieris, 1999; Tzovas, 2006). In fact, Nobes and Parker (2008: 30) illustrate that Greek companies are highly geared (Greece is ranked 4th out of 19 countries). Features of bank lending are the importance of collateral, personal relationships, political intervention and social criteria (such as number of employees) as well as special rules/advantages for Small and Medium Sized Enterprises (see e.g. Ballas, 1994; Ballas et al. 1998; Baralexis, 2004). Debt financing leads to conservatism and an emphasis on historical costs: ‘This has torpedoed many attempts to modernise accounting policies, especially in the area of disclosure’ (Ballas, 1994: 114). This is confirmed by Tsakumis (2007) who reports that Greek accountants do not disclose contingent liabilities.

Further, La Porta et al. (1998) note that French-style civil-law countries - including Greece - provide the weakest legal protection for creditors and shareholders and the poorest enforcement of legislation; they also note a strong correlation between poor legal protection of investors and high ownership concentration (as is also the case in Greece).

2.7 Corporate Governance

Greek legislation on corporate governance was updated and aligned with international corporate governance rules in 2000.²⁸ Tsipouri and Xanthakis (2004: 16), state that at the end of 2001 Greek companies demonstrated ‘a fairly satisfactory degree of compliance with OECD guidelines’. The more recent Law 3016/2002, *inter alia*, specifies that the board of directors must be made up of at least 1/3 non-executive members of which at least two must be independent; covers mandatory related parties’ disclosures; and specifies requirements in respect of formalising companies’ internal procedures (investors relations, procedures for employing managerial staff and the organisation and establishment of audit committees (Iliokaftos, 2005)).

However, Florou and Galarniotis (2007), based on data available on 274 out of 340 Greek listed companies in 2003, show that the average corporate governance rating was 44%. Additionally, in a 2005 survey, Grant Thornton and the Athens University of Economics and Business (AUEB) found that listed companies frequently complied with the form of the legislation but not with its substance. (These findings support Ballas et al.’s observations on formalism in Greek accounting – see above). They found instances of inadequate disclosures, directors holding positions on the boards of affiliated companies, a lack of independence between executive and non-executive directors, non-existence of remuneration committees, inadequate disclosures of directors’ remuneration and non-compliance with legislation on the minimum content of internal regulations. A similar survey in 2006 (Grant Thornton

²⁸ Hellenic Capital Market Commission (HCMC) Rule 5/204/2000: ‘Code of conduct for companies listed on ASE and their affiliated persons’.

and AUEB, 2006) finds that progress has been made but that further improvement is required with regard to independence of non-executive directors and the adoption of 'Best practices' policies.

2.8 The Athens Stock Exchange (ASE)

The ASE was founded in 1876 and since 2000 has been considered a developed market (Mandikidis, 2000). It grew rapidly during the 1990s. In 1996, there were 218 companies listed whereas in 1999 278 companies were listed (Vlachos, 2001). Additionally, at the end of 1999, the total annual ASE capitalisation had realised a total increase of 194.7% (from €67 billion in 1998 to €197 billion in 1999) (Spanos, 2005). However, it suffered a decline the years after with the general index realising a decrease of 38.8% in 2000, 23.5% in 2001 and a further 32.5% in 2002 (Spanos, 2005).

In September 2006, the FTSE classified Greece in the 'watch list', meaning it may change status to 'Advanced Emerging Market' (this is still the case in September 2009 - latest FTSE update (FTSE, 2009)). At the end of 2006, 317 companies were listed with a total market capitalisation of €158 billion of which 46% belonged to foreign investors (Central Security Depository, 2006). More specifically, foreign investors held 52.31% of the market capitalisation of ASE's FTSE 20 companies, 39.80% of FTSE 40, and only 15.63% of Small Cap 80 companies (Central Security Depository, 2006). ASE's major indices are: Main index, FTSE 20, FTSE Mid 40 and Small Cap 80. In November 2005, the ASE was aligned with the International Classification Benchmark (ICB²⁹) and, since 2 January 2006, the Greek listed companies have been disaggregated across 17 'super-sectors' (henceforth: sectors). This allows comparison of the Greek sectors with the corresponding ones in international stock exchanges such as the NYSE, NASDAQ, Euronext and the LSE.

²⁹ ICB distinguishes between four levels of classification consisting of 10 Industries, 18 Super-sectors, 39 sectors and 104 sub-sectors. The Greek super-sectors are comparable to 17 of the ICB Super-Sectors (ASE, 2005).

2.9 The Capital Market Regulator (HCMC)

The capital market is regulated and supervised by the HCMC. HCMC is also authorised to provide accreditation and professional qualifications to fund managers, investment analysts, investment consultants and share traders (Law 2836/00). HCMC's operations are regulated by PD 25/03 and Law 3152/03. The latter transferred the supervisory responsibilities of the Ministry of National Economy to the HCMC. It now officially operates as an independent body although the influence and the supervision of the Ministry of National Economy have been maintained. HCMC was one of the founding members of the Forum of European Securities Commissions (FESCO) which preceded the Committee of European Securities Regulators (CESR). It is also member of the International Organisation of Securities Commissions (IOSCO).

As far as its supervisory role is concerned, in 2006, HCMC had a small team of people reviewing listed companies' accounts in an effort to identify instances of non-compliance with regard to measurement and disclosure requirements. The requirement for companies to produce quarterly reports means that there is an increased workload which often results in a superficial 'audit' with a focus on the measurement issues.³⁰

When a non-compliance issue is identified, the Commission asks for a clarification from the company. If it is needed, a request for a public announcement on behalf of the company is required, accompanied with information regarding the issues identified in its financial statements and the possible restatements might be needed. In serious cases of non-compliance, HCMC imposes fines and/or suspends companies' trading for a period. In very exceptional circumstances a company may be de-listed.

³⁰ It was in mid 2007 that HCMC advertised 3 positions for increasing the workforce with regard to this function. I am in debt to one key informant interviewee for providing this information.

2.10 Financial Reporting and Transition to IFRS

In August 2000 the HCMC suggested the mandatory adoption of IAS by all Greek listed companies (Vlachos, 2001). Subsequently, Law 2992/02 intended to implement this from January 2003 (Art. 1). However, this law never came into force because of companies' lack of preparedness (Floropoulos, 2006). Instead, in line with EU requirements, Law 3229/04 (amending Law 2190/20) introduced the mandatory implementation of IFRS by all Greek listed companies for the accounting periods starting on or after 1 January 2005.³¹

The transition to IFRS in Greece has been described as a complex and potentially problematic process, made more so by a lack of preparedness of companies and accountants (cf. Spathis and Georgakopoulou, 2007, with reference to Floropoulos, 2006). The substantial differences between the two accounting regimes made the transition a real challenge. Results of a 2003 survey by Grant Thornton and AUEB (2003) suggest that, while approximately half of the companies surveyed expected IFRS adoption to affect their financial position positively, many (36%) acknowledged lack of adequate expertise among their employees; 30% was going to seek for advice from specialised accountants and auditors; and only 17% had formed a structured action plan towards IFRS transition (Grant Thornton and AUEB, 2003).

According to PD 186/92, companies' fiscal year should be of 12 months, ending either on 30 June or 31 December (Art. 26). Legislation (Law 2190/20 and PD 360/85) also contains detailed regulation on the publication of full and summarised financial statements. In February 2006 the HCMC, following auditors' and companies' requests in relation to the difficulties of providing financial statements under IFRS, abolished the early publication date for summarised financial statements (two months after the year end) but effectively brought forward the required publication date for full annual financial statements (to three months after the year end) (Decision 6/372/15.2.06, Law 3461/06). Subsequently, at the end of March

³¹ Daske et al. (2007) and the sample selection process (3.5.3) indicate that there were very few Greek listed companies that had adopted IAS/IFRS prior to 2005 on a voluntary basis.

2006, the first annual financial statements of Greek listed companies prepared in accordance with IFRS became available.³²

These first IFRS financial statements made a lot of new information available to users, as a result of the extensive mandatory disclosures required by IFRS. Greek GAAP required substantially less mandatory disclosures. According to Greek legislation, financial statements should be accompanied by notes (known as *Prosartima* - i.e. Appendix, in translation). However, although the '*Prosartima*' had to be filed with the Mitroo (Register) of AEs, this was rarely available in the public domain. (This is why previous studies relating to Greek companies' disclosures report difficulty in acquiring the necessary data e.g. Leventis (2001) and Vlachos (2001)). Additionally, the '*Prosartima*' had a standardised format with specific sections on accounting policies. Therefore, companies did not have to produce a detailed set of notes accompanying the financial statements as required by IFRS and accordingly investors did not have access to detailed information regarding the accounting practices followed.

Users of the financial statements became also more informed about companies' financial position and performance because the first IFRS financial statements incorporated reconciliation statements explaining the adjustments relating to the transition to IFRS. Arguably, for some companies, some of this information was already in the public domain but this was not the case for the majority of companies. In fact, the majority of companies did not publish reconciliation statements before the first IFRS financial statements (because they were not well prepared for the transition (cf. Floropoulos, 2006)). Even when the reconciliations were finally produced they were of low quality. HCMC (2006) conducted a survey to capture the adjustments reported in the reconciliation statements but did not consider adjustments to net income, mainly because of the low quality of disclosures. Similar

³² This refers to the audited set of financial statements as defined by IAS 1 'Presentation of financial statements' as well as the directors' report. It does not refer to the full annual reports which become available later - up to 160 days after the year end (Leventis et al., 2005). The former have been used for the purposes of the present study.

problems were referred to in a study by Grant Thornton (2006) (see section 3.3.2 for more details).

2.11 Conclusion – Focusing on The Greek Environment

The substantially increased mandatory disclosures, along with the substantial differences in measurement requirements between Greek GAAP and IFRS which were expected to reduce the creative accounting practices previously followed, make Greece an interesting and suitable locus for conducting the present research.

This chapter highlighted the inefficiencies in auditing, the weak enforcement mechanisms as well as the general tendency of people to ‘cheat’ the system and not to comply with the accounting rules. These characteristics are reflected in the distrust of the reported financial information and in turn are particularly relevant for meeting the objectives of this research. Thus, the present study considers several of the Greek features mentioned above when the relevant hypotheses are formulated as well as when the empirical findings are discussed.

The objectives of the present study include the exploration of whether the impact on transition to IFRS is an explanatory factor of compliance with the mandatory disclosures (chapter 4) and whether the reconciliation adjustments provided value relevant information (chapter 5). However, testing these hypotheses would not be feasible without capturing the impact revealed in the first IFRS financial statements. This is the purpose of the next chapter (3).

Chapter 3 - Financial Statement Effects and Auditor Size

3.1 Introduction

This chapter provides an answer to the first research question (Q1). It provides analysis regarding the materiality of the changes to the 2004 figures and of specific adjustments to 2004 shareholders equity. This highlights the effect of transition on the first IFRS financial statements. The analysis carried out in this part of the study is descriptive and exploratory in nature since it does not test a theory *per se*. However, the findings provided herein form the basis for the analysis carried out in the next two parts of the study which test specific theories and provide motivation for future research.

The remainder of the chapter is organised as follows: Section 3.2 provides the necessary context regarding the analysis provided herein. Section 3.3 reviews earlier literature pertinent to this part of the research. Section 3.4 discusses the *de jure* differences between IFRS and Greek GAAP and introduces the research hypotheses. Section 3.5 describes the data and research methods employed. In section 3.6 the findings are discussed in depth with reference to the research hypotheses, the prior literature and the context of the Greek accounting environment provided in chapter 2. Section 3.7 discusses the limitations of this part of the research and section 3.8 forms the concluding remarks.

3.2 The Context

IFRS 1 requires first IFRS financial statements to provide at least one year's comparatives under IFRS (paragraph 36). Moreover, companies should explain how the transition from previous GAAP to IFRS affected their reported financial position, financial performance and cash flows (if relevant) by providing reconciliation statements (paragraphs 38-43).

These comparative figures and reconciliation statements provide a unique opportunity to examine the impact of IFRS adoption on companies' financial position (shareholders' equity), key ratios and reported performance (net income) for

the financial year 2004, and to examine the effect of individual standards. As pointed out by Nobes,³³ different results and financial positions are logically to be expected when a different set of GAAP is applied for the same accounting period. However, what is interesting is whether the change is material and if so, whether the difference is positive or negative and why it occurs. Nobes' (2006) proposes a number of hypotheses to be tested by future research. The above is in line with his 7th Hypothesis (ibid: 242):

‘Pre-IFRS differences between national practices have a significant effect on IFRS financial statements.’

Nobes (2006) argues that pre-IFRS differences will have an impact on IFRS financial statements' starting point. Since Greek GAAP differs significantly from IFRS, it was expected that Greek companies' financial statements should be affected considerably by the transition to the new accounting regime. Additionally, as discussed in the previous chapter, prior literature has identified several creative accounting practices followed under Greek GAAP. These practices are not allowed under IFRS and thus the adoption of specific standards was expected to cause a negative impact on Greek companies' shareholders' equity.

Finally, the literature indicates that earnings management, as well as audit effort, are associated with audit firm size in Greece (e.g. Caramanis and Lennox, 2008). Thus, analysis exploring whether the impact revealed in the reconciliation statements was significantly different between firms with 'Big 4' auditors versus firms with non-'Big 4' auditors could shed more light on the pre-IFRS differences and their effect on IFRS financial statements.

Following along these lines and drawing on the comparative figures and reconciliation statements for the financial year ended 31st December 2004, the present research examines the impact of IFRS adoption on companies' financial statements (net profit, shareholders' equity, gearing and liquidity) for the financial year 2004. It also examines which accounting standards have the strongest economic impact on net assets, with a particular focus on standards expected to curtail creative

³³ A comment made during the workshop 'Accounting in Europe' (Paris, September 2007).

accounting practices. Analysis is also provided across the partition of companies with ‘Big 4’ and non-‘Big 4’ auditors as proxy for accounting quality (DeAngelo, 1981; Watts and Zimmerman, 1986).

3.3 Literature Review

3.3.1 The impact of transition to IFRS in the EU

The transition of European companies to IFRS has given rise to studies making use of the 2004 financial statements, which were initially prepared on the basis of national GAAP and then restated under IFRS as comparatives for the 2005 financial statements. These studies attempt to capture the impact of transition. Some, but not all, make use of Gray’s comparability index, which is also applied in the present study (see below). The fact that not all studies follow the same approach for capturing the impact revealed in the reconciliation statements does not allow for direct comparisons of their findings. Additionally, and in contrast to the current research, very few of the prior studies analyse a large number of companies; their sample may thus not be representative of all listed firms in the country under examination. Finally, very few of the prior studies test the significance of their findings.

Jermakowicz (2004) focuses on the adoption of IFRS by listed companies in Belgium. The study consists of a qualitative part, i.e. a survey of the views of people engaged with the issues relating to the transition to IFRS in the 20 most traded listed firms; and a quantitative on the impact in the reconciliation statements of three early IFRS adopters. Without using Gray’s comparability index and without testing for significance of her findings, she concludes that a relatively large negative (positive) impact is revealed for two (one) companies both on shareholders’ equity and net income when reconciling Belgian GAAP with IFRS.

Aisbitt (2006) focuses on the FTSE 100 listed companies’ transition to IFRS in 2005 by using the 2004 reconciliation statements. She also does not employ Gray’s comparability index nor does she test the significance of her findings. She finds that, for UK companies, there was no overall significant effect on shareholders’ equity,

but that the effect varies for different companies, with no apparent industry effects. She also argues that ‘the effect of the change ... on individual line items could have important consequences for financial analysis and contractual obligations’ (ibid.: 117). The most affected line items were: Retirement benefit obligations (-15.45%); Property, plant and equipment (+10.58%); Cash and cash equivalents (+8.03%); and Other financial assets (-7.11%). (Average changes are reported in the parentheses).

Bertoni and De Rosa (2006) focus on 42 companies listed on the Milan Stock Exchange (MSE), the market capitalisation of which represented approximately 80% of the market total. However, this represents only 15% of the total number of companies listed on MSE. In common with the current study, the authors use Gray’s comparability index and test the significance of their findings. They find that Italian GAAP is more conservative than IFRS, but they argue this result is not as strong as had been expected (see also section 3.6). Shareholders’ equity, profit and return on equity under Italian GAAP are, on average, lower than that reported under IFRS. In contrast to Aisbitt (2006), Bertoni and De Rosa (2006) do not identify material average adjustments as a result of the adoption of individual standards on net assets.

Cordazzo (2008) provides a more in depth study than Bertoni and De Rosa (2006) by analysing 178 companies listed on MSE. This study provides comparable findings to those reported here because of the large sample used and because Gray’s comparability index has been employed. In line with Bertoni and De Rosa (2006), Cordazzo (2008) reports significantly higher net income and shareholders’ equity under IFRS than under Italian GAAP.

Lopes and Viana (2008) analyse the total population of listed companies (44) on the Portuguese Stock exchange that had to provide reconciliation statements for the transition to IFRS. They (mainly) provide narrative discussion of transition related disclosures provided by the Portuguese companies, but focus less on the quantitative aspect of the subject matter. They report that more companies were affected positively with regard to shareholders’ equity and net profit than negatively. The authors employ Gray’s comparability index only with regard to earnings and

accordingly their findings are not comparable to those reported here with regard to shareholders' equity.

Callao et al. (2007) use a sample of 26 listed companies in Spain and examine the impact reported in the reconciliation statements of those companies as well as the changes in their book-to-market ratios. They find *inter alia* that long-term and total liabilities increased whilst debtors and shareholders' equity decreased.

3.3.2 The impact of transition to IFRS in Greece

Three prior studies, using reconciliation statements, have examined transition to IFRS in Greece. Two are non-academic studies published in Greek and not available in the English language. None of the three studies examines any relationship of its respective findings with audit firm size. Only the two non-academic studies provide brief explanations or discussions of the differences between the two accounting frameworks. None excludes or discusses outliers, which means that results may be distorted by a small number of exceptional cases. All three studies differ from the research undertaken here in their methodology for capturing the impact of IFRS. This does not allow for comparison of their findings with those of the prior literature discussed above. By contrast, the present study also makes use of Gray's comparability index, thereby facilitating such comparison.

The first study was carried out by the HCMC in May 2006. The results are reported across 11 sectors but in accordance with ASE's industry classification as at 31st December 2005 i.e. not the ICB industry classification. Unlike the present study, it does not examine the impact on financial indicators and, as it was not intended for an international (academic) audience, it also only provides a very brief discussion of the differences between Greek GAAP and IFRS. Its analysis follows a transaction and not a standards approach (as applied here - see below) for reporting the adjustments disclosed in the reconciliation statements. However, like the present study, it reports

frequency and significance in value only in respect of adjustments to shareholders' equity.³⁴

HCMC (2006) finds that on average, under IFRS, shareholders' equity was 2.44% higher and profit after tax 6.16% higher. The strongest impact on shareholders' equity was caused by adjustments to tangible assets, deferred tax assets and liabilities, and intangible assets. The most frequent adjustments were recognition of deferred tax assets and liabilities, derecognition of start-up costs capitalised as intangible assets and recognition of pension liabilities.

In June 2006, Grant-Thornton published a more comprehensive study which also reports the differences on earnings and shareholders' equity.³⁵ It finds that 54% of Greek firms reported a positive adjustment on net assets. The impact on small companies (Small Cap 80 index) was negative, that on the two other indices (FTSE 20 and FTSE Mid 40) positive. Net profit was increased by 4.15%. The most significant positive adjustments in net assets related to fixed assets and deferred tax, the most significant negative adjustments to the recognition of liabilities for employee benefits, impairment losses on loans and receivables and derecognition of start-up costs previously capitalised.

Both studies noted that inconsistent presentation and inadequate disclosures meant that subjective judgment was required in assessing the impact of transition.³⁶ In the HCMC study, 'other' appeared as an adjustment for 52% of companies. This included both positive and negative adjustments which cannot be identified by the reader (HCMC, 2006). The Grant Thornton study reports 20 key areas where companies' recognition, measurement, and disclosure practices fall short of IFRS. As a result some companies had to be (partially) excluded from the analysis. (This also applied to the HCMC study.)

³⁴ According to one key informant interviewee, this was for three reasons: Firstly, the HCMC attributes higher importance to the impact on shareholders' equity. Secondly, because of timing and resource constraints: the study was published just one month after the publication of companies' annual financial statements. Thirdly, companies' disclosures with regard to earnings reconciliations were not of sufficient quality to allow for objective analysis of the information reported therein.

³⁵ The findings of this study were later presented to the European Financial Reporting Advisory Group.

³⁶ This was also confirmed for the HCMC study by the key informant interviewee.

Finally, a study by Bellas et al. (2008) is based on a sample of 83 Greek listed companies and provides limited descriptive statistics which suggest that fixed assets, tangible assets and total liabilities are significantly higher, and that there was greater variability for most balance sheet measures under IFRS than under Greek GAAP.

3.4 Differences between Greek GAAP and IFRS and Research Hypotheses

3.4.1 Differences between Greek GAAP and IFRS

The Greek accounting framework differs substantially from IFRS and has been characterised as stakeholder-oriented, tax-driven (Spathis and Georgakopoulou, 2007), and conservative (e.g. Ballas, 1994). According to Ding et al. (2007), Greece is the country (of 30 examined) with the highest number of issues absent from local GAAP but covered by IAS ('absence score'). Additionally, Greece is the 10th most 'diverged' country (of 28) with regard to differences between national rules and IASs (Ding et al., 2007; see also Spathis and Georgakopoulou, 2007).³⁷

According to Ding et al. (2005) 'divergence' is closely related to culture and, as argued above, Greece has a distinctive culture. Ding et al. (2007) also identify a positive association between ownership concentration and 'absence'. Ownership concentration is a particular feature of the Greek market. Ding et al. (2007) also find a negative association between 'divergence' and the importance of the equity market which, as discussed in the previous chapter, in Greece is low.

Table 3.1 summarises the main differences between IFRS and Greek GAAP measurement and recognition rules as they were at the end of 2005, i.e. at the date of transition.³⁸

³⁷ Nobes (2009) *inter alia* underscores one limitation of the Ding et al. (2007) study. The authors use data referring to the *de jure* differences between IAS and national GAAP as if these lead also to *de facto* differences. However, this may not be necessarily the case in some countries because some issues may be anyway irrelevant. Nobes (2009) also criticises the distinction between the categories of 'absence' and 'divergence' that Ding et al. (2007) form on the basis of the Nobes (2001) study. Although Ding et al. (2009) respond to this criticism, these comments need to be considered when discussion about the substantial differences between Greek GAAP and IFRS is made in this study.

³⁸ I thank Panayiotis Vroustouris and Mike Smith for constructive comments on the content of this table.

Table 3:1: Summary of requirements of Greek GAAP that are different from IFRS as at 31 December 2005.

IFRS	Greek GAAP
<p>IAS 2 ‘Inventories’ Paragraphs: 9; 25; 17; 21; 29; 32; 34.</p>	<p>Inventories shall be measured item by item at lower of cost and net realizable value (<i>Item by item lower value rule</i>).</p> <p>The cost of inventories can be determined by all possible methods (including LIFO).</p> <p>The use of the retail method is not permitted.</p> <p>The use of different cost formulas for inventories of different nature or use is not permitted and in no case is the grouping of similar or associated goods permitted (this applies also to the case of material and other supplies).</p> <p>In no case may borrowing costs are included in the cost of inventories, even if they need time to mature.</p> <p>Write-downs of inventories are not recognised but disclosed in the notes.***</p>
<p>IAS 10 ‘Events after the balance sheet date’ Paragraphs: 12 and 13.</p>	<p>Dividends declared after the balance sheet date shall be recognised as a liability. Only if these dividends are declared for the purpose of an increase in capital shall they be recognised in equity (Development Law. 148/1967, Art. 3).</p>
<p>IAS 11 ‘Construction contracts’ Paragraph: 22.</p>	<p>Costs and revenues on construction contracts are not necessarily recognised on a stage of completion basis.</p>
<p>IAS 12 ‘Income Taxes’ Paragraphs: 5 and 15.</p>	<p>The concept of deferred tax does not exist and accordingly there is no distinction between current and deferred tax.</p>
<p>IAS 16 ‘Property, plant and equipment’ Paragraphs: 16; 29; 39; 50; 51.</p>	<p>There is no distinction between different classifications of assets such as held for sale, biological assets or investment properties.</p> <p>Only in respect of properties: acquisition costs and interest incurred during the construction period are capitalised as assets under the heading ‘<i>expenses of perennial depreciation</i>’. As a general rule these should either be expensed in the period incurred or amortised in equal tranches over a maximum period of 5 years.</p> <p>Fixed assets are recognised at cost and revaluation is not permitted unless a special law is applicable. This is tax law 2065/1992, which introduced a system of revaluation for land and buildings only. It allows revaluation every 4 years in accordance with indices provided by the ministry of finance. The increase in value is recognised within equity as the company issues free shares to the shareholders.</p>

*** This last point refers to a *de facto* accounting practice which was indeed not in line with the *de jure* accounting rule (i.e. 1st point).

	<p>The depreciation is based on indices set by the Ministry of Finance (most recently in P.D. 299/2003). These are not in line with the assets' useful lives.</p> <p>A provision is recognised for any impairment of assets where this is expected to be temporary.</p>
<p>IAS 17 'Leases' Paragraphs: 8; 20 and 33.</p>	<p>There is no distinction between finance leases and operating leases. All leases are treated as operating leases.</p> <p><i>**However Law 3229/04 (Art. 13), provides companies with the option to adopt IAS 17 and thus recognise also finance leases.</i></p>
<p>IAS 18 'Revenue' Standard's Objective.</p>	<p>Revenue recognition is driven by tax considerations. Revenue is recognised as soon as services or products have been invoiced which usually takes place after the delivery of goods or services. However, very limited guidance is provided with regard to revenues from services.</p> <p>The effective interest method is not used for recognising revenue arising from interest.</p>
<p>IAS 19 'Retirement benefits' Paragraphs: 64; 93 and 93A.</p>	<p>Under Greek Law there is no concept of a defined benefit plan. A company has the obligation to pay a lump-sum to the employees who are made redundant or retire. The amount of that sum depends on the employee length of service, the way of leaving the company (redundancy or retirement) and salary upon that date. In the case of retirement, the amount of benefit is equal to the 40% of the amount in the case of redundancy. These benefits fall within the defined benefit schemes under IAS 19. Such liabilities fall into the definition of provisions under Greek law and should be recognised in the balance sheet. However, in practice most companies follow the requirements of a tax law and recognise these liabilities only in relation to employees due to retire during the year after the period end.</p>
<p>IAS 20 'Accounting for government grants and disclosure of government assistance' Paragraphs: 7 and 12.</p>	<p>Government grants shall not be recognised until there is reasonable assurance that the grants will be received. However a company's compliance with the conditions attaching to the grant is not considered.</p> <p>Government grants are recognised directly within shareholders' equity. They may not be offset against the cost of assets.</p>
<p>IAS 21 'The effects of changes in foreign exchange rates' Paragraph: 28.</p>	<p>Exchange differences arising on the settlement, or on translating of loans or credits in respect of the acquisition of properties at rates different from those at which they were translated on initial recognition during the period or in previous financial statements, can be recognised as assets</p>

	under the heading ' <i>expenses of perennial depreciation</i> '. Non realisable gains from exchange differences of current receivables are recognised within equity. Gains on foreign currency monetary balances are deferred until settlement.
IAS 23 'Borrowing costs' Paragraphs: 11; 17 and 24.	Borrowing costs directly attributable to the acquisition, construction or production of a property are either expensed in the period incurred or capitalised separately as assets under the heading ' <i>expenses of perennial depreciation</i> ' and amortised over a maximum period of five years. To the extent that funds are borrowed generally but then used for the purpose of obtaining a qualifying asset, no amount of borrowing costs is eligible for capitalisation. The construction period starts when the loan is received and borrowing costs are not determined based on the value of the capital invested but rather the interest of the loan associated with the construction of the qualifying asset is capitalised. Capitalisation of borrowing costs in relation to inventories is not permitted.
IAS 27 'Consolidated and separate financial statements' Paragraph: 20.	A subsidiary must be excluded from consolidation if its business activities are so dissimilar from those of the other entities within the group so that the true and fair view of the financial statements might be distorted. <i>**Law 3487/06 does not allow this treatment anymore.</i>
IAS 28 'Investments in associates' Paragraphs: 6 and 23.	Investments in associates are accounted for using the equity method but the carrying amount does not include any goodwill arising. It is recognised separately in the consolidated statements as intangible asset and is either expensed in the period incurred or amortised in equal tranches over a maximum period of 5 years. The investor shall hold at least 20% of the investment to account for it as an associate.
IAS 31 'Interests in joint ventures' Paragraph: 30.	Greek Law remains silent in this respect and interests in joint ventures are carried at cost. (Their treatment is as that of jointly controlled operations under IAS 31).
IAS 36 'Impairment of assets' Paragraphs: 6; 8; 9; 10; and 18.	While Greek Law requires a company to recognise impairments of assets there is no explicit requirement to assess annually whether there is an indication of impairment. Additionally, the concepts of value in use, recoverable amount and the asset's useful life are not referred to in this context. Where an asset is considered to be permanently impaired, the impairment is recognised so that the asset's value is shown at the lower of cost and fair value. The impairment can be reversed. The

	reversal is optional and is treated as exceptional revenue.
IAS 37 ‘Provisions, contingent liabilities and contingent assets’ Paragraphs: 10 and 12.	Greek Law does not explicitly distinguish between provisions and contingent liabilities. In general it requires companies to recognise liabilities for any risk which can be defined but does not specify recognition criteria. This allows plenty of room for subjectivity when deciding whether or not to recognise provisions (see for example pension liabilities). Usually, companies recognise provisions relating to tax issues.
IAS 38 ‘Intangible assets’ Paragraphs: 8; 11; 13; 17; 54; 57; 72; and 88.	Although the definition of an intangible asset is similar to that of IAS 38, there are no specific recognition criteria. Intangible assets are recognised at cost. Additionally, start-up costs, capital expenditure etc. should either be expensed in the period incurred or capitalised as intangibles under the heading ‘ <i>expenses of perennial depreciation</i> ’ and amortised in equal tranches over a maximum period of 5 years (see above). Licenses and research and development expenses can also be recognised as intangible assets. In particular, licenses of mobile telecommunications are amortised over a period of 20 years and research and development expenses are amortised over a period of 3 years. The Law does not explicitly distinguish between research and development phases and permits capitalisation of both. The Law does not consider the concept of intangible assets with indefinite useful lives. Goodwill arising on an acquisition should either be expensed in the period incurred or amortised in equal tranches over a maximum period of 5 years.
IAS 32 ‘Financial instruments: disclosure and presentation’ Paragraph: 33.	Greek law permits listed companies to hold up to 10% of their shares in issue with the purpose of enhancing the market value of their shares. Own shares are carried at cost as held-to-maturity investments.
IAS 39 ‘Financial instruments: recognition and measurement’ Paragraphs: 9; 46; 71.	Greek Law allows only for two types of financial instruments which are similar but not identical to those referred to in IAS 39: (a) held-to-maturity investments and (b) available-for-sale financial assets, which are recognised at cost. The effective interest method is not considered for subsequent measurement of loans and receivables. The Law does not specify any recognition and measurement requirements for hedge accounting.
IAS 40 ‘Investment property’ Paragraph: 30.	Greek Law does not recognise the concept of investment property. Although a distinction between ‘operating’ and ‘non-operating’

	<p>properties exists, the latter are recognised as such only if they have not been used or they are not currently in use. Accordingly, properties held to earn rentals are considered as “operating”.</p> <p>As there is no separate classification of properties and investment properties the cost model is applied to all.</p>
IAS 41 ‘Agriculture’ Paragraphs: 5; 10; and 13.	There is not explicit guidance regarding biological assets and agricultural produce under Greek Law.
IFRS 3 ‘Business combinations’ Paragraph: 1; 54; and 56.	Greek Law permits both the pooling of interests and the purchase method for business combinations. However, in most cases business combinations are based on the legal form rather than on whether an acquirer can be identified. Accordingly, companies follow the pooling of interest method and subsequently, goodwill rarely is recognised. Recognition of negative goodwill is permitted and is recognised in consolidated shareholders’ equity as ‘difference arising on consolidation’.

Main sources: Nobes (2001), Sakellis (2005) and Company Law 2190/20.

As is apparent from Table 3.1, the concepts of deferred tax, assets held for sale, investment properties, biological assets and biological produce are not recognised by Greek Law. Additionally, the fair value model is not considered. Land and properties can be revalued every four years, but only in accordance with government indices. Depreciation and amortisation rates for tangible and intangible assets are also specified by the government - the estimated useful lives of assets are not considered. Start-up costs and interest during the construction period of properties are capitalised together with acquisition costs. Government grants are recognised within shareholders’ equity, proposed dividends are recognised as liabilities and pension deficits are recognised only with respect to employees due to retire during the following year. Financial instruments are carried at cost and there are no specific requirements for hedge accounting. Finally, several consolidation differences exist between the two accounting regimes. Under Greek GAAP, the ‘pooling of interests method’ is permitted, interests in joint ventures are treated as jointly controlled operations, subsidiaries with different activities may be excluded from consolidation and the concept of significant influence is not explicitly referred to in the definition of investments in associates (in cases of less than 20% interest).

3.4.2 Curtailment of creative accounting³⁹

Leuz et al. (2003: 525) state that ‘outsider economies with relatively dispersed ownership, strong investor protection, and large stock markets exhibit lower levels of earnings management than insider countries with relatively concentrated ownership, weak investor protection, and less developed stock markets’. They classify Greece (along with Austria) as the country with the highest earnings management. Ding et al. (2007) find that ‘absence’ creates opportunities for earnings management. Considering that Greece has a very high ‘absence’ score (see above), the finding of Leuz et al. (2003) is not surprising.

The Greek GAAP treatments reflecting creative accounting practices which were expected to be curtailed, with the introduction of seven IFRS in particular, can be summarised as follows: Greek GAAP allows recognition of start-up costs as intangible assets. Consistent with the definition of creative accounting used herein, Greek companies proceeded with *excessive* capitalisation of start-up costs. Additionally, there is no clear distinction between research and development expenses. Similar to the excessive capitalisation of start-up costs, companies were even capitalising research expenditure. This is relevant in the Greek context if one considers that banks are the main providers of finance (Tzovas, 2006) and that high values of assets affect debt covenants. Additionally, by non-expensing research expenditure as well as start-up costs companies did not reduce profits. This is in line with Baralexis who finds that credit finance is the most important motive for companies to overstate profits. These start-up costs and research expenses do not meet the recognition criteria of IAS 38, the adoption of which was accordingly expected to affect shareholders’ equity negatively.

The option to recognise pension liabilities only in relation to employees due to retire during the following year allowed companies to report higher net assets. Additionally, few disclosures were required. This meant companies did not have to be explicit with regard to the liabilities recognised. IAS 19 requires recognition of

³⁹ As discussed in the introduction, Baralexis (2004: 440) defines creative accounting or earnings management ‘as the process of intentionally exploiting or violating the GAAP or the law to present financial statements according to one’s interests’. This definition is followed here.

defined benefit liabilities for all employees in service and therefore its adoption was expected to reduce net assets and provide a more accurate picture regarding companies' pension liabilities.

Furthermore, as discussed in chapter 2, Greek GAAP allows considerable subjectivity for recognising provisions; they are frequently recognised only where tax advantages can be gained. IAS 37 sets more explicit requirements for the recognition of provisions and therefore was expected to have a negative impact on net assets. The same applies regarding the adoption of IAS 39, which sets specific requirements for the measurement of loans and receivables. Additionally, under Greek GAAP there is no requirement about hedge accounting. These differences were expected to have a negative impact on net assets. Further, companies are permitted to acquire own shares (up to 10%) and recognise them as assets, in order to affect market prices.⁴⁰ This was done frequently in practice. Thus, the requirement of IAS 32 for deduction of own shares from shareholders' equity was expected to reduce net assets.

IAS 36 explicitly requires companies to 'assess at each reporting date whether there is any indication that an asset may be impaired. If any such indication exists, companies shall estimate the recoverable amount of the asset' (paragraph 9). The standard provides explicit guidance and requirements regarding the assessment of impairment and the estimation of the recoverable amount (paragraphs 12 & 18). Greek GAAP, although requiring impairment to be recognised in some circumstances, is less explicit in this respect. As a result, Greek companies did not recognise impairments of assets in many instances. (Since intangible assets with indefinite useful lives were not recognised under Greek GAAP, other IAS 36 requirements are irrelevant).

Finally, IAS 2 does not permit the use of LIFO (last-in, first out) to measure the cost of inventories – however LIFO is commonly used under Greek GAAP. Additionally, IAS 2 explicitly requires companies to value inventories at the lower of cost and net realisable value and recognise any impairment. Under Greek GAAP, any changes in

⁴⁰ The latter is explicitly suggested by Company Law 2190/20 (Article 16, paragraph 5).

the value of inventories was supposed to be disclosed in the notes but was not recognised. IAS 18 introduced different requirements for revenue recognition of goods sold and explicit requirements for revenues relating to the provision of services. (The latter are absent from Greek GAAP.) The necessary adjustments were expected to affect net assets negatively by reducing the value of current assets (inventories and receivables).

3.4.3 Research hypotheses

3.4.3.1 The impact of IFRS on financial position and reported performance (H3.1)

As discussed above, there are substantial *de jure* differences between the two regimes. It is therefore expected that the reconciliation statements required as part of IFRS implementation will reveal significant differences between the book value of shareholders' equity and net profit produced under the two different regimes (cf. Nobes, 2006). Although it is expected that the differences will be significant, it is difficult to predict the sign of the net changes. This is because some of the accounting practices under Greek GAAP were more, but others were in fact less conservative than IFRS-based practices.

Additionally, several creative accounting practices were expected to be curtailed with the introduction of IFRS. It can therefore be argued that the implementation of IFRS will improve the reporting quality of Greek financial statements (Polychroniadis, 2002). Therefore, the first research hypothesis of this chapter is formed as:

H3.1: The financial position and reported performance of Greek listed companies have been significantly affected by the transition to IFRS.

3.4.3.2 The impact of IFRS on gearing and liquidity (H3.2)

Bartov and Kim (2004: 354) suggest that 'the level of accruals may indicate the integrity of the reported book value'. Managers may 'inflate accounting income, and thus book values, by inflating accruals [i.e. engaging in earnings management]. Thus, low (high) accruals may indicate conservative (aggressive) accounting, which means

that the book value is higher (lower) than it appears' (ibid: 354). As discussed previously, prior studies suggest that Greece is one of the countries with the highest earnings management.

The areas of earnings management identified above are also expected to have an impact on key ratios such as gearing and liquidity. (This is also supported by Butler et al. (2004) who find a positive association between abnormal accruals and liquidity.) Therefore, implementation of IFRS which do not allow for the same accounting practices would have a significant impact on these ratios.

These issues are particularly relevant to the Greek context and the transition to IFRS since banks are major providers of finance (Venieris, 1999; Tzovas, 2006) and these ratios affect contractual obligations and debt covenants (Ormrod and Taylor, 2004). Further, with reference to the creative accounting practices followed under Greek GAAP, Baralexis (2004) finds that credit finance is the most important motive for companies to overstate profits. Accordingly, the second research hypothesis of this chapter is formed as:

H3.2: Key ratios such as liquidity and gearing⁴¹ have been affected significantly by the transition to IFRS.

3.4.3.3 The impact of IFRS and audit quality (H3.3)

DeAngelo (1981) and Watts and Zimmerman (1986) suggest that big audit firms may provide audits of higher quality than small audit firms since the former are more independent. Several empirical studies use a dichotomous variable (e.g. 'Big 4' vs. non-'Big 4') to proxy for differences in audit quality. Prior literature suggests that this proxy does indeed capture differences in audit quality (see more details about the role of audit companies' size on the quality of companies financial statements in 4.5.3.1).

The audit firm proxy has been used by Caramanis and Lennox (2008) to examine earnings management and audit quality in Greece.⁴² They demonstrate that the 'Big

⁴¹ Gearing is defined as Total Long-term Liabilities/Net Assets and Liquidity as Current assets/Current Liabilities.

5’ audit firms work more hours than the non-‘Big 5’ firms. They therefore use audit hours as a proxy for audit effort and find that ‘abnormal accruals are more likely to be positive when audit hours are lower’ and that ‘the magnitude of income-increasing abnormal accruals is greater when audit hours are lower’ (ibid.: 117). These results suggest that ‘low audit effort [i.e. a non-‘Big 5’ auditor] is associated with earnings management.’ (Caramanis and Lennox, 2008: 117). (Leventis and Caramanis (2005) also provide evidence that audit effort in Greece is correlated with audit firm size.)

Based on these findings and the prior literature relating to creative accounting under Greek GAAP, it is expected that the impact from the transition to IFRS is significant and significantly greater for companies with non-‘Big 4’ auditors than for firms with ‘Big 4’ auditors, since the latter are less likely to apply creative accounting practices. Accordingly, the third research hypothesis of this chapter is formed as follows:

H3.3: The impact on shareholders’ equity, net profit, liquidity and gearing was significant and significantly greater for companies with non-‘Big 4’ audit firms than for companies with ‘Big 4’ auditors.

3.4.3.4 The impact of individual standards on financial position and audit quality (H3.4 & H3.5)

When a different set of accounting principles is applied to the same company for the same period, different financial results are expected to be reported. It is likely that some standards or accounting treatments have a greater impact in this than others. This should be revealed by paying particular attention to areas of major *de jure* differences between the two sets of GAAP and to those standards expected to prevent prior creative accounting treatments. In other words, do the changes in the bottom line figures derive from aggregate adjustments or did the implementation of

⁴² This proxy has also been used by Owusu-Ansah and Leventis (2006) and Leventis et al. (2005) in research on timeliness of reporting and audit report lag by Greek companies.

particular standards cause distinct and material changes to companies' financial positions?⁴³ Exploring this allows investigating *why* changes occurred.

Therefore the materiality of the impact caused by each of the seven standards expected to curtail creative accounting previously applied and the frequency with which the standards appear in shareholders' equity reconciliation statements is examined. Thus, the fourth research hypothesis of this chapter is formed as follows:

H3.4: The implementation of standards preventing prior creative accounting practices causes a significant impact on shareholders' equity.

The above hypothesis is extended by examining the impact these standards cause across companies with 'Big 4' and non-'Big 4' auditors. Accordingly, the fifth research hypothesis of this chapter is formed as:

H3.5: The standards which curtail previous creative accounting practices have a greater impact on shareholders' equity for companies with non-'Big 4' audit firms than for companies with 'Big 4' auditors.

Thus, the main focus of the study is on the standards expected to curtail creative accounting practices previously followed. However, to allow the reader to have a broader picture of the effects on companies' book values, the significance of other standards appearing frequently in the reconciliation statements is also tested. Although no expectation was formed with regard to the impact caused by other standards and the potential relationship with audit firms for consistency purposes, the relevant findings are also presented across this partition.

3.5 Research Methods and Data

3.5.1 Research methods

To address the research objectives of this part of the study, Gray's comparability index is employed. Gray (1980) was the first to quantify the impact of different

⁴³ Because of inconsistencies in presentation and lack of sufficient disclosures within the income statement reconciliations (confirmed also by the studies of HCMC (2006) and Grant Thornton (2006)), it was not feasible to examine the impact of individual standards with regard to net profit.

national accounting practices on profit measurement by means of a ‘conservatism index’: $1 - [(R_A - R_D) / |R_A|]$, where R_A = adjusted profits and R_D disclosed profits. He measured post-tax profits as disclosed in French, German and UK financial statements against these profits as adjusted for international financial analysis, i.e. the ‘European Method’ developed by the European Federation of Financial Analysts Societies.

Gray’s seminal work has been widely replicated and extended (e.g. Adams et al., 1993; Cooke, 1993; Hellman, 1993, Norton, 1995; Adams et al., 1999; Street et al., 2000; Ucieda Blanco and Garcia Osma, 2004; Haverty, 2006; Beckman et al., 2007). Breaking the index down into partial indices (Weetman and Gray, 1990, 1991) also permitted the measurement of the impact of specific adjustments or reconciling items. To emphasise the index’s use as a measure of comparability (without judging relative conservatism), Weetman et al. (1998) renamed the index as ‘comparability index’, terminology which has been adopted by subsequent studies.⁴⁴

Hellman (1993), Whittington (2000) and Bertoni and DeRosa (2006) also employed the index to explore differences in Return on shareholders’ Equity. The present research expands on previous studies by exploring the impact of IFRS recognition and measurement requirements on gearing and liquidity. Where Greek reported shareholders’ equity (or other) is compared to that reported under IFRS, the index is expressed by the formula:

$$1 - \frac{Equity_{IFRS} - Equity_{GR}}{|Equity_{IFRS}|} \quad (\text{Eq. 3.1})$$

In parallel to previous studies, a value larger than 1.0 implies that net assets under Greek GAAP is higher than shareholders’ equity under IFRS, a value lower than 1.0 implies that shareholders’ equity under Greek GAAP is lower than net assets under IFRS and an index value of 1.0 is neutral. Average index values are calculated as the

⁴⁴ Traditional definitions of conservatism imply understatement of book values and earnings figures, although differences in earnings figures are temporary and will eventually reverse (García Lara and Mora, 2004 - but see Weetman (2006) for an example of perpetual conservatism). García Lara and Mora therefore distinguish between balance sheet conservatism and earnings conservatism, the former implying understatement of the book value of equity, the latter a desire to require a higher degree of verification for recognition of good news than for bad news (García Lara and Mora, 2004).

sum of all companies' indices divided by the number of companies under examination.

One limitation of the index is that it reports extreme values where net assets under IFRS approaches zero and shareholders' equity under Greek GAAP is a relatively large amount (cf. Weetman et al., 1998; Street et al., 2000). However, the fact that the formula reports changes comparable to those used under the accounting concept of materiality outweighs the presence of such outliers (cf. Weetman et al., 1998; Street et al., 2000).

The present research follows the prior studies in using as the denominator the 'yardstick' or benchmark of the adjusted shareholders' equity (or other), i.e. the net assets (or other) as reconciled to IFRS, because it is assumed that IFRS are of higher quality than Greek GAAP (cf. Ding et al., 2007), and because application of IFRS is now required by EU and subsequently Greek law. Therefore an international investor would view any differences between Greek GAAP and IFRS as departures from IFRS rather than departures from Greek GAAP. This implies that an investor could theoretically compare companies from different European countries on the basis of IFRS reported figures (but within the limitations identified *inter alia* by Ball, 2006; Zeff, 2007; Soderstorm and Sun, 2007). Using IFRS as denominator will also aid comparison with other studies focusing on other countries (cf. Hellman, 1993; Adams et al., 1999 with respect to US GAAP). This may be particularly relevant as the current transition period of IFRS implementation in EU member states has given rise to comparable studies elsewhere (cf. Bertoni and De Rosa, 2006; Lopes and Viana, 2008; Cordazzo, 2008).

Alternatively, the impact could be captured by adding all companies' shareholders' equity (or other) under both frameworks and then calculating an average index for each case of reference (whole sample, industry etc). However, it is not the focus of the study to measure the average change to the aggregate values of shareholders' equity (or other) of all companies (which was the approach followed by the three prior Greek studies). Instead, the average percentage change of each company's transition to IFRS is measured, treating each company equally, independent of size,

thus, avoiding the distorting effect of the few large companies (see data section (3.5.3)).

Although there is no agreed threshold of materiality, most researchers provide their results based on two bands of materiality thresholds: 5% and 10% (e.g. Weetman and Gray, 1990; 1991; Weetman et al., 1998; Adams et al., 1999; Street et al., 2000). In the present study, because it is expected to find changes of considerable magnitude, and to avoid loss of what is considered to be relevant information, information based on the 20% band is also provided. In line with prior studies and auditors' perceptions of materiality changes of less than 5% are considered as not material, and changes of more than 10% as material, with a 'grey area' between 5% and 10%.

Similar to previous studies, partial indices are used for the adjustments in shareholders' equity reconciliations. The following formula for measuring partial indices is employed:

$$1 - \frac{\text{Partial Adjustments}}{|\text{Equity}_{IFRS}|} \quad (\text{Eq. 3.2})$$

This formula provides a relative measure of the contribution or, in other words, the significance of each reconciling item. Prior literature identifies two ways of classifying adjustments reported within the reconciliation statements: a standards approach or a transaction approach. The first combines adjustments with reference to the standard which requires the adjustments (Weetman and Gray, 1990; Adams et al., 1993; Weetman et al., 1998; Street et al., 2000; Bertoni and De Rosa, 2006; and Aisbitt 2006), while the second does so with reference to the transactions giving rise to the adjustment (Ucieda Blanco and Garcia Osma, 2004).

The present research follows the 'standards approach' in clustering adjustments and thus examines the effect caused by the adoption of each standard. (For example, deferred tax adjustments have been captured as deriving from the adoption of IAS 12). Accordingly, any reported partial adjustment has been allocated to the relevant IFRS(s). This approach is followed because in many cases items are combined and may have been netted off, i.e. companies explicitly refer to the impact of a particular standard without any further explanation and this does not allow for the identification

of the magnitude of several individual adjustments falling within the scope of a single standard.

The value of the partial index may be interpreted as the % difference between net assets under IFRS and Greek GAAP because of the effect of each standard. Consequently, a value larger than 1.0 suggests that shareholders' equity under Greek GAAP is higher by x% than shareholders' equity under IFRS because of a particular standard, and vice versa. The partial indices or the impact attributed to the adoption of each standard add up to the total index (which represents the total impact of the adoption of IFRS for each company individually) as follows:

$$\text{Total Index: } \sum_1^n \text{Adjustment}_n - (n - 1) \quad (\text{Eq. 3.3})$$

3.5.2 Statistical tests employed

To avoid distortion through extreme values, cases where the comparability index was more than 1½ of the boxplot length (Fielding and Gilbert, 2004: 125 and Pallant, 2005: 61) are excluded.⁴⁵ For all tests, the normality of the distribution of the sub-samples is examined, by employing the Kolmogorov-Smirnov statistic. Since no normally distributed variables are identified (see below), the tests of the significance of the impact measured by the use of Gray's comparability index focus on the median, instead of the mean values, with one sample *t*-test for median as applied by Minitab. To examine the differences in the impact measured across the sub-samples and across different industries, the Mann-Whitney U Test is employed, since it is appropriate for independent samples.

3.5.3 Data

In contrast to previous (comparability) studies based on (sometimes) small samples, the present research investigated the majority of available Greek listed companies' accounts, thus avoiding sampling bias. 43 companies belonging to the banking, insurance and financial services sector were excluded (due to their specific

⁴⁵ This approach is consistent with Callao et al. (2007).

accounting and reporting requirements). 20 companies whose shares were suspended from trading or were under supervision by the HCMC were also excluded. The same applies for 5 early IFRS adopters and 11 companies with a 30th June balance sheet date (because, at the time of data collection, their financial statements were not yet available). Thus, from a population of 317 listed companies at the end of March 2006 (including those under suspension/supervision), 238 companies were utilised in this study. As mentioned in section 1.6 this sample consists of 193 companies publishing consolidated accounts and 45 publishing individual accounts. Appendix I lists the names of the companies used in this study, grouped in the ‘super-sectors’ classification provided by ASE at the end of March 2006.⁴⁶ Table 3.2 provides descriptive statistics with reference to the sample.

Table 3.2: Data descriptive statistics (N=238).

Values in € millions	Mean	Standard Deviation	Min	Lower Quartile	Median	Upper Quartile	Max
Market Capitalisation*	291	1,042	2	15	41	145	10,017
Sales	206	542	0.4	22	55	175	5,475
Shareholders' Equity	116	340	-10	16	33	87	4,513
Net profit	13	48	-67	-0.08	1.5	6	458

* Market Capitalisation as at 1 month after the publication of the 2005 annual results. Data is for 237 companies as one company was not traded 1 month after the announcement of its annual financial results. Financial data are based on IFRS 2005 figures. €1=US\$1.2597 and €1=£0.6930 (28/4/06-FT).

As is apparent from Table 3.2, the sample consists mainly of small companies. Given the collective importance of small and medium-sized listed companies in Greece and the anticipated impact of transition in particular on these companies (Kontoyannis, 2005), the results are expected to be particularly relevant.

3.5.4 Categories of transitional information

Reconciliation statements were not presented uniformly. Therefore, in line with Aisbitt (2006), three categories for evaluating the quality of companies’ transitional disclosures were created: a) ‘detailed’, for companies which provided both reconciliation statements and additional narrative disclosures explaining the

⁴⁶ The companies in italics are those which have also been used for the purposes of the other two chapters of this thesis.

transition to IFRS; b) ‘adequate’, for companies which provided reconciliation statements for both earnings and shareholders’ equity but did not provide additional narrative disclosures; and c) ‘inadequate’, for companies which did not provide reconciliation statements or which provided inadequate reconciliations and narratives (i.e. which did not enable users to evaluate the impact caused by individual standards). Because chapter 4 examines specifically the relationship between audit firm and companies’ compliance with IFRS disclosure requirements, no specific research hypothesis is formed here. However, the potential relationship between the level of transitional disclosures and audit firm is explored by employing a Chi Square test for descriptive purposes.

3.6 Results and Discussion

3.6.1 Quality of transitional information

Table 3.3 shows that 42 of the 238 companies in the sample (17.6%) provided inadequate reconciliation disclosures. Five of these provided reconciliation statements which did not allow identification of the individual standards’ effects, and the remaining 37 did not provide reconciliation statements for either shareholders’ equity or net income. This also provides an illustration of the ineffectiveness of auditing: not one audit opinion contained a qualification regarding non-compliance with the requirements of IFRS 1.

These inadequate disclosures support findings by Ballas (1994) and Tsakumis (2007) who argue that Greece represents a high conservatism and high secrecy society, and the insufficient enforcement supporting findings by La Porta et al., (1998) (see above). In fact, Avlonitis (2007), director of the HCMC’s ‘Listed companies’ supervision division’, acknowledged companies’ non-compliance with IFRS measurement and/or disclosure requirements. However, the HCMC’s approach taken was not to impose strict fines on the basis that this was a transition period.

As Table 3.3 shows, there is a statistically significant relationship between the quality of companies’ transitional disclosures and audit firm size (at 1% level). This is also supported by evidence from the interviews. According to one of the

interviewees, ‘Big 4’ firms could attract experienced employees from their foreign operations to assist in the transition process.

The presentation and the level of information provided with regard to the transition to IFRS may also affected investors’ perception about the overall quality of the financial statements. This is likely to have implications for the value relevance of accounting information during the first year of IFRS adoption and this is examined in chapter 5.

Table 3:3: Transitional information and auditing firms (N=238).

		Transitional information		
		Detailed	Adequate	Inadequate
Auditing firm	‘Big 4’	16	34	2
	non-‘Big 4’	56	90	40

Pearson Chi-Square: 9.441^a, 2df, Asymp. Sig. (2-sided) 0.009.

^a 0 Cells (.0%) have expected count less than 5. The minimum expected count is 9.18.

Nevertheless, the high level of non-disclosure identified is surprising and raises concerns about enforcement and the role of regulators and auditors in IFRS implementation. The Grant-Thornton (2006) and HCMC (2006) studies reach similar conclusions with regard to Greece.

It is interesting also to note that similar issues were identified by Lopes and Viana (2008) for Portugal as well as by Cordazzo (2008) for Italy. Both studies identified companies which would fall under the category of ‘Inadequate’ disclosures as this is defined here: 8% for Italy and 20% for Portugal.

The following sections examine the findings relating to each research hypothesis. Where relevant, references to prior literature and to the observations on the Greek accounting context (i.e. chapter 2) are discussed. The analysis focuses on median index values because the outcome of the Kolmogorov-Smirnov Statistic suggests normal distribution cannot be assumed.

3.7 Impact on financial position, performance, financial indicators (H3.1 and H3.2) and audit quality (H3.3).

Table 3.4 presents the distributions of the effect on financial position and performance as measured with reference to shareholders' Equity, Earnings, Gearing and Liquidity (H3.1 and H3.2), across the bands of materiality defined above. It also shows descriptive statistics and the results of the significance test employed. In the same table, evidence relating to H3.3 is also provided.

Profit after tax was not available for 50 companies under Greek GAAP. Therefore impact on earnings is examined only for the 188 companies which did provide this information in 2004.

The median index of 0.97 (significant at 10%) reveals that more companies' (119) shareholders' equity was affected positively by the transition to IFRS than negatively (93). This is broadly in line with the Grant Thornton (2006) study. Similarly, the mean index value shows that, *on average*, shareholders' equity under Greek GAAP was 1% lower than under IFRS (not significant). (Note that the thresholds of materiality do not coincide with those of statistical significance).

There is a broad range of index values. 62 companies faced a material negative and 70 a material positive impact. A total of 85 companies were affected by more than 20%. The fact that a similar number of companies were affected negatively and positively is in line with the suggestion that it was difficult to predict the sign of the overall impact, since not all the accounting practices under Greek GAAP were more conservative than IFRS-based practices.

More specifically, the analysis shows that the majority of the Greek companies maintained the cost model after transition to IFRS but used the option of IFRS 1 to use fair value as deemed cost.⁴⁷ This, along with the reversal of dividends (IAS 10), was the main driving factor for the positive adjustment on net assets, offsetting the

⁴⁷ Because of a long tradition of keeping assets at historical cost, companies in Greece (and other Continental European countries) were not expected to adopt immediately the fair value model for asset valuation (Nobes, 2006) (I am grateful to David Alexander for pointing this out). I am also grateful to Monica Veneziani for confirming that in Italy companies also maintained the cost model, since mechanisms for regular fair valuations are not yet established.

negative effect from other standards on the transition date. The large number of companies facing a material negative change suggests that a) overstated shareholders' equity reduced after the introduction of specific standards which curtailed creative accounting practices in many firms (see below) and b) Greek GAAP is not necessarily more conservative than IFRS with reference to shareholders' equity *per se* as fewer liabilities are recognised (see also the discussion on H3.4). These findings support H3.1, with regard to Shareholders' Equity.

Table 3:4: Impact on 238 companies' shareholders' equity, gearing and liquidity and on 188 companies' net profit.

Greek GAAP	Equity Comparability Index			Net profit Comparability Index			Gearing Comparability Index			Liquidity Comparability Index		
	Full sample	'Big 4'	non-'Big-4'	Full sample	'Big 4'	non-'Big-4'	Full sample	'Big 4'	non-'Big-4'	Full sample	'Big 4'	non-'Big-4'
< 80% of IFRS	42	14	28	57	17	35	162	26	136	11	4	6
81-90% of IFRS	28	4	23	16	3	13	16	4	12	21	5	16
91-95% of IFRS	29	6	23	5	0	5	5	1	4	27	3	24
96-99% of IFRS	20	4	16	16	3	13	8	2	6	24	5	19
GR < IFRS Index less than 1	119	28	90	94	23	66	191	33	158	83	17	65
Index = 1 - No change	5	0	5	7	1	6	2	1	1	12	5	7
GR > IFRS Index more than 1	93	21	72	55	15	40	38	17	21	128	25	99
101-104% of IFRS	15	6	9	11	2	9	8	3	5	31	5	26
105%-109% of IFRS	16	2	14	5	2	3	6	4	2	21	5	16
110%-119% of IFRS	19	5	14	12	2	10	6	1	5	32	7	25
> 120% of IFRS	43	8	35	27	9	18	18	9	9	44	8	32
Count[†]	217	49	167	156	39	112	231	51	180	223	47	171
Mean	0.99	0.96	1.01	0.88	0.92	0.91	0.58	0.80	0.52	1.06	1.04	1.05
Standard Deviation	0.25	0.28	0.24	0.46	0.50	0.40	0.42	0.38	0.41	0.17	0.16	0.16
Minimum	0.37	0.39	0.39	-0.39	0.04	-0.08	0.00	0.00	0.00	0.62	0.76	0.62
Maximum	1.67	1.65	1.67	2.16	2.38	2.07	1.84	1.60	1.84	1.51	1.37	1.51
Median [‡]	0.97*	0.97	0.98	0.96***	0.89	0.96**	0.56***	0.80**	0.50***	1.02***	1.01	1.03***
Mann-Whitney Test ^{††}		W=4,913			W=2,853			W=7,787***			W=4,984	

[†]Number of companies excluding outliers. Cases were identified as outliers if they were more than 1.5 of the boxplot of index values length. *Significant at 10%, **Significant at 5%, ***Significant at 1%. [‡]Two-tailed, one sample *t*-test for median ($m \neq 1$) as calculated with Minitab. Gearing: Total Long-term Liabilities/Net Assets; Liquidity: Current assets/Current Liabilities. ^{††}One-tailed test.

The findings are in line with those of Lopes and Viana (2008) for Portugal, and of Cordazzo (2008) and Bertoni and De Rosa (2006) for Italy (which, according to Ding et al., (2007, see above) is also characterised by high ‘absence’ and high ‘divergence’). All studies found that for the majority of companies the adjustment regarding shareholders’ equity was positive on the transition to IFRS.

No support for H3.3 (companies with ‘Big 4’ vs. non-‘Big 4’ auditors) is identified with regard to shareholders’ equity. For none of the two sub-samples is the impact on net assets significant nor is the difference in the impact revealed across the two sub-samples. However, the hypothesis holds for the gearing ratio and partially holds for the liquidity ratio, i.e. the two specific categories of the balance sheet related to earnings management (see below).

With regard to net profit, Table 3.4 shows that the overall impact was positive, with a mean index of 0.88. The median value of 0.96 (significant at 1% level) supports this finding, as does the fact that 94 companies faced a positive change. For the majority of these (73) this change was material ($\geq 10\%$). 39 companies faced material negative impact. Hence, these results support H3.1, with regard to net profit.

These findings suggest that there are, *in aggregate*, significant differences between the *de facto* application of Greek GAAP and IFRS. They are also in line with Nobes (2006) general hypothesis and Kontoyannis’ (2005) expectations with regard to Greece that the transition to IFRS would lead to material changes in companies’ reported performance. Similarly, Lopes and Viana (2008) and Bertoni and De Rosa (2006) report that the change to IFRS led to less conservative accounting practices in Portugal and Italy with regard to profit, although (there) the aggregate difference is smaller.

Additionally, some support for H3.3 is identified for earnings, as there is a significant non-material impact for companies with a non-‘Big 4’ auditor, but a not significant material impact for companies with a ‘Big 4’ auditor. However, the difference in the impact revealed across the two sub-samples is not significant. These findings are in line with the expectation that the earnings of companies with non-‘Big

4’ were creatively adjusted by accounting practices not permitted under IFRS, while for companies with a ‘Big 4’ auditor this was not the case or was the case to a lesser extent.

In line with expectations, gearing and liquidity have also been affected significantly by the transition to IFRS (H3.2).⁴⁸ The median index value of 0.56 for gearing is significant at 1% level and the average index value is 0.58. Again, a broad range of index values is revealed. 212 companies (89%) faced a material change in their gearing ratio. For 191 companies, gearing under Greek GAAP was lower.

Although gearing for both groups of companies was affected materially, the Mann-Whitney U test reveals that the impact on companies with non-‘Big 4’ auditors was significantly greater (H3.3). This confirms the expectations discussed above.

The findings with regard to the liquidity ratio are similar. The ratio under Greek GAAP was, on average, 6% higher than that under IFRS. The median was significantly higher by 2% (H3.2). It was higher for 128 and lower for 83 companies. Fewer companies (108) faced material effects; however almost half of these (55) faced a change of more than 20%. Similar to the results regarding net profit, for companies with non-‘Big 4’ auditors the impact on liquidity was significant while this was not the case for companies with ‘Big 4’ auditors. However, the median index values of the two sub-samples are not significantly different (H3.3).

The fact that, for the majority of companies, transition to IFRS led to higher gearing and lower liquidity ratios might be expected to be an important issue for Greek companies which are largely debt-financed, since as pointed out by Aisbitt (2006), such changes to companies’ financial positions may have an impact on contractual obligations. However, as indicated in the previous chapter, in Greece ‘... a consequence of the close relationship between banks and companies is such that a violation of a debt covenant may not have serious consequences for a firm’ (Tzovas,

⁴⁸ Caution is required when interpreting the gearing comparability index. An index value lower than 1.0 means that gearing under Greek GAAP was lower, so it needs the opposite interpretation to other measures. In general, the results for financial indicators have to be treated cautiously as ratios may be close to 0 and a relatively small change, in absolute figures, results in a large percentage change.

2006: 375). Lending decisions are not based only on financial criteria, but also on other ‘qualitative’ characteristics of the firm.⁴⁹

The reasons for the changes in ratios can be inferred by looking at the standards affecting assets and liabilities, which are discussed below (H3.4).

3.8 Individual standards’ effects on shareholders’ equity and audit quality (H3.4 and H3.5)

Of the 42 companies providing ‘inadequate’ transitional disclosures, 20 provided no reconciliations or unclear reconciliations for shareholders’ equity. Therefore this discussion is limited to 218 companies.

Table 3.5 shows the significance of the average impact caused by each of the seven standards expected to curtail creative accounting practices and to cause a negative impact on transition to IFRS (H3.4). It also reports results for companies with and without ‘Big 4’ auditors (H3.5). Table 3.6 provides descriptive statistics with regard to the remaining standards appearing frequently in companies’ reconciliation statements following the same disaggregation (‘Big 4’ vs. non-‘Big 4’), for descriptive purposes. As mentioned above, no expectation on the direction of the impact of these standards was formed.

These findings provide further evidence for the suggestion that Greek GAAP may be less conservative than IFRS, at least as applied in the context of transition. The ‘absence’ of requirements relating to the recognition of liabilities or derecognition of certain assets in Greek GAAP (Ding et al., 2007; see also Table 3.1) results in fewer liabilities being recognised, which effectively gives rise to higher net assets. This refers to adjustments regarding IAS 19, IAS 36, IAS 37, and IAS 32/39. Additionally, standards not related to recognition of liabilities (IAS 2, IAS 18, and IAS 38), as expected, also cause a non-material but significant negative impact (H3.4).

⁴⁹ This was suggested by the key informant interviewee from the banking sector.

Table 3:5: Distribution and materiality of partial index values within shareholders' equity reconciliation statements, with regard to standards expected to curtail creative accounting practices.

	IAS 38 (Applicable to 197 companies)			IAS 19 (Applicable to 188 companies)			IAS 32 & IAS 39 (Applicable to 179 companies)			IAS 37 (Applicable to 138 companies)		
	Full sample	'Big 4'	non-'Big 4'	Full sample	'Big 4'	non-'Big 4'	Full sample	'Big 4'	non-'Big 4'	Full sample	'Big 4'	non-'Big 4'
Count [†]	168	43	130	173	41	127	155	38	112	121	34	88
Mean & St. Deviation	1.02 (0.03)	1.02 (0.03)	1.03 (0.04)	1.01 (0.02)	1.03 (0.05)	1.00 (0.01)	1.04 (0.05)	1.02 (0.03)	1.04 (0.05)	1.03 (0.04)	1.04 (0.06)	1.03 (0.04)
Median [◇]	1.01***	1.01***	1.02***	1.01***	1.01***	1.02***	1.02***	1.01***	1.02***	1.02***	1.015***	1.02***
Mann-Whitney Test ^{††}	W=3,356.5*			W=3,903.5			W=2,364.5**			W=2,119		
Minimum	0.98	0.98	0.98	0.98	0.98	0.98	0.94	0.97	0.94	0.99	1.00	0.99
Maximum	1.13	1.10	1.16	1.07	1.15	1.04	1.20	1.09	1.22	1.18	1.19	1.16
Partial Index between 0.91 - 0.94	7	3	4	0	0	0	1	0	1	0	0	0
Partial Index between 0.95 - 1.04	130	33	97	156	29	127	106	30	76	95	23	68
Partial Index between 1.05 - 1.09	26	5	21	17	7	0	29	8	21	11	5	10
Partial Index ≥ 1.10	5	2	8	0	5	0	17	0	14	15	6	10

[†]Number of companies excluding outliers. Cases were identified as outliers if they were more than 1.5 of the boxplot of index values length.

***Significant at 1%. [◇]Two-tailed, one sample *t*-test for median ($m \neq 1$), as calculated with Minitab. ^{††}One-tailed test.

Table 3.5 (continued): Distribution and materiality of most frequent partial index values within equity reconciliation statements, with regard to standards expected to curtail creative accounting practices.

	IAS 2 (Applicable to 64 companies)			IAS 36 (Applicable to 42 companies)			IAS 18 (Applicable to 32 companies)		
	Full sample	'Big 4'	non-'Big 4'	Full sample	'Big 4'	non-'Big 4'	Full sample	'Big 4'	non-'Big 4'
Count [†]	60	15	44	34	10	27	30	10	16
Mean & St. Deviation	1.03 (0.04)	1.02 (0.03)	1.04 (0.04)	1.04 (0.06)	1.16 (0.23)	1.04 (0.06)	1.03 (0.05)	1.03 (0.05)	1.01 (0.01)
Median [◇]	1.02***	1.00	1.02***	1.02***	1.03**	1.02***	1.01***	1.005	1.01**
Mann-Whitney Test ^{††}	W=351.5**			W=219.5			W=137.5		
Minimum	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.99	0.99
Maximum	1.09	1.16	1.08	1.27	1.66	1.27	1.17	1.12	1.06
Partial Index between 0.91 - 0.94	2	0	0	0	0	0	0	0	0
Partial Index between 0.95 - 1.04	42	46	13	26	6	20	23	7	15
Partial Index between 1.05 - 1.09	4	14	2	3	0	3	4	2	1
Partial Index \geq 1.10	0	0	0	5	4	4	3	1	0

[†]Number of companies excluding outliers. Cases were identified as outliers if they were more than 1 and ½ of the boxplot of index values length. **Significant at 5%, ***Significant at 1%. [◇]Two-tailed, one sample *t*-test for median ($m \neq 1$), as calculated with Minitab. ^{††}One-tailed test.

Table 3:6: Distribution and materiality of other frequent standards' partial index values within equity reconciliation statements.

	IAS 12 (Applicable to 206 companies)			IAS 16 (Applicable to 194 companies)			IAS 10 (Applicable to 147 companies)			IAS 20 (Applicable to 129 companies)			Adjustment 'Other' (Applicable to 121 companies)		
	Full sample	'Big-4'	non 'Big-4'	Full sample	'Big-4'	non 'Big-4'	Full sample	'Big-4'	non 'Big-4'	Full sample	'Big-4'	non 'Big-4'	Full sample	'Big-4'	non 'Big-4'
Count†	184	45	139	188	40	146	135	31	104	113	32	82	116	35	80
Mean & St. Deviation	1.02 (0.05)	1.01 (0.08)	1.01 (0.05)	0.81 (0.21)	0.75 (0.25)	0.83 (0.20)	0.96 (0.03)	0.97 (0.02)	0.96 (0.03)	1.03 (0.02)	1.02 (0.01)	1.03 (0.03)	1.01 (0.04)	0.99 (0.02)	1.01 (0.04)
Median	1.01*	1.03*	1.00	0.875***	0.815***	0.88***	0.97***	0.98***	0.97***	1.02***	1.015***	1.02***	1.00	1.00	1.00
Mann-Whitney Test††	W=4,759*			W=3,139**			W=2,451*			W=1,552*			W=2,058.5		
Minimum	0.88	0.86	0.89	0.19	0.19	0.23	0.88	0.91	0.88	1.00	1.00	1.00	0.91	0.93	0.91
Maximum	1.15	1.19	1.13	1.35	1.14	1.35	1.00	1.00	1.00	1.10	1.05	1.13	1.25	1.04	1.20
Partial Index ≤ 0.90	2	2	1	108	25	82	2	0	2	0	0	0	0	0	0
Partial Index between 0.91 - 0.94	20	7	13	20	7	13	30	3	27	0	0	0	4	1	3
Partial Index between 0.95 - 1.04	115	19	96	53	8	46	103	28	75	86	31	55	107	34	73
Partial Index between 1.05 - 1.09	27	7	20	2	0	2	0	0	0	25	1	22	0	0	0
Partial Index ≥ 1.10	20	10	9	5	1	4	0	0	0	2	0	5	5	0	4

†Number of companies excluding outliers. Cases were identified as outliers if they were more than 1.5 of the boxplot of index values length.

***Significant at 1%. Two-tailed, one sample *t*-test for median ($m \neq 1$), as calculated with Minitab. †† One-tailed test.

Most of the standards have an impact on the ratios under discussion.⁵⁰ IAS 19 caused a negative effect on gearing by increasing non-current liabilities. IAS 32/IAS 39 also significantly affected liquidity and gearing ratios as both current and non-current assets and liabilities changed. Both ratios were also (negatively) affected by the increase in the recognition of provisions as required by IAS 37 and because of IAS 1 which requires separate presentation of current and non-current assets and liabilities. IAS 2 negatively affected liquidity ratios by reducing current assets. IAS 18 affects these ratios because of the increase of payables and/or decrease of receivables.

With regard to H3.5, IAS 2 and IAS 18 cause a significant impact on companies with non-‘Big 4’ auditors but not on the remaining companies. While IAS 38 and IAS 32/39 caused significant impact in both sub-samples, this was significantly higher for companies with non-‘Big 4’ auditors (as was also the case for IAS 2). The adjustments relating to IAS 19, IAS 36 and IAS 37 were also significant for all sub-samples, with no apparent difference in the extent of these adjustments for either sub-sample.

These findings suggest that the specific standards identified above either cause a material impact or appear in most companies’ reconciliation statements. Their provisions prevent earlier creative accounting methods identified by Polychroniadis (2002), Baralexis (2004), Spathis (2002), Spathis et al. (2002) and Caramanis and Spathis (2006), such as insufficient bad debt and pension provisions, insufficient depreciation and impairment charges, capitalisation of expenses, and valuation of inventories at cost (rather than lower of cost and market). As a result, the implementation of most of these standards has a negative effect on all (IAS 2 and 36), virtually all (IAS 37 and IAS 38) or the large majority (IAS 18, IAS 19, IAS 32/39) of companies to which they are relevant. It can therefore be argued that the quality of Greek financial reporting under IFRS has been improved. It also appears that for some of these standards the impact was either significant only, or greater, for companies with non-‘Big 4’ auditors. This supports the prior evidence suggesting

⁵⁰ It is acknowledged that the application of other standards (such as IAS 10, IAS 11, IAS 16, IAS 17, IAS 21) is expected to have affected these ratios.

that creative accounting is more common in these firms. Summarising, it is apparent that not only the *de jure* differences cause a material impact on companies' financial positions, but also the preparers' *de facto* behaviour, for example creatively exploiting the options under Greek GAAP.

No prior expectation was formed for the remaining standards with regard to creative accounting and audit firm. The findings relating to these standards can be summarised as follows.

Because the concept of deferred tax does not exist under Greek GAAP and deferred tax assets and liabilities are not recognised, IAS 12 is the standard appearing most frequently in reconciliations, causing an immaterial (but significant at 10%) negative impact. It appears that this is greater for companies with 'Big 4' auditors. IAS 16 also occurs frequently and it appears that its adoption caused a material and significant impact in the whole sample as well as when examining the two sub-samples. This is because, as indicated above, the majority of the firms applied the option by IFRS 1 and used assets' fair value as deemed cost. It becomes apparent that, similar to IAS 12, the impact is significantly greater to companies with 'Big 4' auditors. IAS 10 also caused a significant impact but this was not material. Additionally, it appears that its impact was greater for companies with non-'Big 4' firms. The last standard to appear frequently was IAS 20, causing a significant but not material negative impact in all firms. The impact was significantly greater for companies with non-'Big 4' auditors.

It is found that 55.5% of the companies in the sample present adjustments under the category 'Other'. Although the impact of these adjustments, *in aggregate*, does not appear to be significant, their frequent presentation in companies' reconciliation statements reveals an important issue in relation to less transparent disclosures (which is examined in detail in the next chapter). Similar findings are reported by Lopez and Vianna (2008) with reference to Portugal.

3.9 Limitations

Prior literature notes a number of limitations of using reconciliation statements, most notably poor compliance with disclosure requirements and inconsistent and incomplete presentation of reconciliations (Weetman and Gray, 1990, 1991; Adams et al., 1993, 1999, Street et al., 2000; Ucieda Blanco and Garcia Osma, 2004; Aisbitt, 2006). These limitations also apply to the present study.

Furthermore, there is a risk that the results reflect short-term timing differences, which may reverse in later accounting periods (Street et al., 2000; Norton, 1995). The current studies examining compulsory transition to IFRS can only make use of the 2004 financial statements and thus cannot assess the impact of timing differences (cf. also Bertoni and De Rosa, 2006). Furthermore, this period may not reflect a typical economic environment and typical accounting policies (cf. Norton, 1995). Since the EU Regulation was passed in 2002, the latter makes it likely that at least some companies' accounting policy choices were influenced by anticipation of the change.

An additional problem for studies using prior period comparatives is the risk of 'noise' being introduced by prior period adjustments (Ucieda Blanco and Garcia Osma, 2004), or by non-specific ('big bath') adjustments which may not relate to IFRS transition at all (see also Lopes and Viana, 2008). In this study (see also HCMC, 2006), 121 companies (55.5% of the companies examined) provided adjustments under the category 'Other' which may have contained several adjustments netted off but resulting in a mean index value of 1.01 and a median of 1.00. Although such adjustments may cause a material change to shareholders' equity, it is impossible for a user of the financial statements to capture or assess these adjustments.

Further, *de jure* rules may differ from *de facto* accounting practice (Hellman, 1993; Norton, 1995). This needs to be taken into account when differences in *de jure* accounting regulation are examined and discussed in order to explain or contextualise empirical (comparison index) findings. Given the problems of creative

accounting and weak enforcement outlined above, it is quite likely that some distortion is introduced by this in the Greek case (cf. Vroustouris, 2007; Avlonitis, 2007).

3.10 Conclusions

In this part of the study, the impact of transition to IFRS on the financial statements of Greek listed companies is examined. Given the substantial *de jure* differences between Greek GAAP and IFRS it was assumed that Greek companies' financial position and results would have been affected considerably.

The first two objectives of this chapter were to identify and evaluate the impact and materiality of IFRS adoption on companies' financial position, performance and key ratios and to examine individual standards' effects on shareholders' equity. Based on prior evidence regarding the relationship between audit effort and earnings management with auditor type in Greece, the third objective was to test the potentially different findings across sub-samples of companies with 'Big 4' and non-'Big 4' auditors.

It is found that implementation of IFRS did indeed have a significant impact on the financial position and reported performance as well as on gearing and liquidity ratios, of Greek listed companies. On average, the adjustment on shareholders' equity and net income was positive (immaterial and material respectively). With regard to gearing and liquidity, the impact was, negative (material and immaterial respectively, on average).

These findings are important because such a significant (and in some cases material) impact might a) have acted as a driving factor for companies' compliance with IFRS overall mandatory disclosure requirements and b) have affected investors' perception about the quality of the financial information (i.e. has an impact on the value relevance of the book values).

Only companies with non-‘Big 4’ auditors faced significant impact on net profit and liquidity on transition to IFRS. They also faced a significantly greater impact on gearing than companies with ‘Big 4’ auditors. However, the large number of companies materially affected with reference to all measures examined is somewhat surprising.

With respect to shareholders’ equity, the findings do not support the notion that Greek GAAP is more conservative than IFRS as applied (*de facto*) in this context of transition. A large number of companies with material negative changes is identified and explanations support this finding. Seven standards which cause a significant negative impact on companies’ net assets and which appear to be reducing certain creative accounting practices previously followed under Greek GAAP (Polychroniadis, 2002; Spathis, 2002; Spathis et al., 2002; Baralexis, 2004) are identified. For some of these standards, the impact was either significant only, or greater, for companies with non-‘Big 4’ auditors. This suggests that reporting quality has improved under the new accounting regime. Similarly, the findings regarding the impact caused by individual standards may have an effect on the overall value relevance of accounting information.

While expecting a level of non-compliance with disclosure requirements in the Greek context (‘low trust’ society, low importance of the ‘true and fair view’, high ownership concentration, etc.), the high level of non-compliance with IFRS 1 requirements is still surprising. This appears to be related to the type of audit firm. This also supports previous research suggesting low enforcement in Greece (La Porta et al., 1998; Baralexis, 2004), as well as Ball’s (2006) and Nobes’ (2006) concerns in relation to uneven implementation of IFRS across different jurisdictions. The next chapter examines specifically companies’ level of compliance with all standards’ mandatory disclosures.

Chapter 4 - Level of Compliance with IFRS Mandatory Disclosures

4.1 Introduction

This chapter provides answers to research questions Q2 and Q3. More specifically, the analysis explores: Greek listed companies' levels of compliance with IFRS mandatory disclosures (Q2) and the corporate characteristics that explain Greek listed companies' compliance with IFRS mandatory disclosures (Q3).

The remainder of the chapter is organised as follows: Section 4.2 provides a discussion on the difference between mandatory and voluntary disclosures and the different theoretical underpinnings for and against mandatory disclosures. Section 4.3 outlines the theoretical framework regarding companies' disclosures. (The implications arising from the differences between voluntary and mandatory disclosures and the theoretical framework discussed here are also relevant for the purposes of the analyses carried out in the next chapter (section 5.4.2) relating to the valuation implications of mandatory disclosures (i.e. Q6)). Section 4.4 reviews prior literature examining companies' levels of compliance with disclosures mandated by national standards (4.4.1) and IFRS (4.4.2). Section 4.5 links the theoretical framework and the findings of prior literature for developing the relevant testable hypotheses. Section 4.6 describes the research design for testing these hypotheses. Section 4.7 discusses the research findings against the background of the research hypotheses, the prior literature and the context of the Greek accounting environment provided in chapter 2. Section 4.8 discusses the limitations of this part of the research and section 4.9 forms the concluding remarks.

4.2 Accounting Disclosures: Voluntary vs. Mandatory

Owusu-Ansah (1998a: 154) defines voluntary disclosure as 'any disclosure by companies that is not mandated by law and/or self-regulatory bodies'. However, mandatory disclosure is the minimum standard of financial or non-financial information which accounting standards or other national promulgations require from a 'reporting entity'.

Thus, mandatory disclosures differ from voluntary disclosures because the former force companies to ‘talk about current cash flows, profits, net assets and ownership claims rather than firms’ aspirations for future success’ (Leuz and Wysocki, 2008: 68). Hence, mandatory disclosures bind the companies to disclose both ‘good news’ and ‘bad news’ (Verrecchia, 2001).

In the case of voluntary disclosures, the level and quality of information provided by companies is a result of the rational decision of the managers based on the perceived, direct and indirect, costs and benefits (Gray et al., 1990). As far as mandatory disclosures are concerned, if companies comply with the accounting standards’ requirements, the information provided is a result of what the accounting standards and other regulations mandate.

However, if the enforcement mechanisms are inefficient, the levels of the mandatory disclosures provided are, similar to the case of voluntary disclosures, again heavily dependent on managers’ decisions. Thus, the cost/benefit considerations influencing whether managers provide voluntary disclosures can also apply in this case. Therefore, researchers engaged with measuring compliance with accounting standards’ mandatory disclosures do not deal only with actual disclosures. They also examine companies’ attitudes towards compliance with the regulation, i.e. they engage with *companies’ ‘compliance culture’* (Jenkinson, 1996). Adams (1994: 279) defines compliance as ‘the management of regulatory risk — the risk that a rule or regulation will be broken’ and explains that this risk has many elements (e.g. financial risk, litigation risk, risk of regulatory engagement and reputation risk). Accordingly, managers observe and assess these before making decisions on compliance.

On that basis, companies’ levels of mandatory disclosures are determined by the forces of demand and supply (see below) *as well as* the regulatory risk that managers bear. The latter of course is influenced by the regulatory and the enforcement mechanisms in the countries in which companies operate. Voluntary disclosures, on

the other hand, are less subject to regulation and enforcement mechanisms, and more to the forces of supply and demand.

4.2.1 Regulatory and Free Market theories

In most countries, large numbers of accounting regulations exist, covering a broad range of issues, including disclosures. However, as Admati and Pfleiderer (2000) explain, there is no universal agreement on the optimal level of mandatory disclosures that companies should provide. In fact, there is long debate in the literature on whether regulation is needed. Deegan and Unerman (2008) describe the two opposite ‘schools of thought’ on the subject. On the one hand, there are parties who argue that regulation is necessary (Regulatory Theory) whilst others argue that it is not (Free Market Theory).

Proponents of the first view argue that ‘regulation is supplied in response to the demand of the public for the correction of inequitable market practices’ (Posner, 1974: 335). This implies that the regulatory body interferes in order to protect the public and maximise social welfare (Scott, 2003). This ‘public interest’ approach assumes that capital markets are not efficient and thus users of the financial statements with scarce resources are unable to secure information about a company. Accordingly, information asymmetries, which may lead to the ‘moral hazard’ and ‘adverse selection’ problems (see discussion regarding agency theory below), are mitigated with the introduction of regulation.

The main criticism of regulatory mechanisms is that they may be controlled (captured) by particular interest groups. Thus, the ‘regulated’ capture the ‘regulator’ resulting in regulation having different impacts across different groups because it acts for the interest of specific social or economic groups (Deegan and Unerman, 2008). Additionally, regulation generates direct costs for the preparation and dissemination of the information mandated but the regulator is not a stakeholder incurring these costs (cf. Benston, 1985).

Thus, according to the Free Market Theory, disclosure levels could be determined solely by forces of demand and supply (i.e. without regulation), as is the case for all other goods. ‘Consumers’ of that good (i.e. disclosures) will be prepared to pay for it, if it has any use. Additionally, the market will ‘penalise’ any companies that do not provide the necessary information by treating them as ‘lemons’,⁵¹ especially if other companies do provide such disclosures. This process will eventually lead to an optimal level of information disclosed. (Free Market Theory is closely related to signalling theory which is discussed in more detail below.) However, proponents of regulatory theory argue that, as soon as the information is made available to the public, there will be many individuals who will obtain it without incurring any costs (Cooper and Keim, 1983). (See 5.4.2.3 for a discussion regarding ‘externalities’). This is known as the ‘free rider problem’ (Coffee, 1984) which violates the market-forces arguments and leads to non-functional pricing mechanisms of a market.

The above discussion informs the present study in the following two ways. *First*, the present study engages with disclosures which were introduced by new regulation (albeit not directly by the Greek regulatory regime). Therefore, elements of ‘capture theory’ should be observed in the Greek case. This is supported by the following. The regulator intended to introduce IFRS from 2000 (cf. Valchos, 2001) and issued a law (2992/02) intended to implement IFRS from January 2003. However, this law never came into force because of companies’ lack of preparedness (Floropoulos, 2006). When IFRS were finally implemented, the government changed financial reporting law by providing an extension to the publication date of these (first IFRS) financial statements. This was in response to ‘lobbying’ by audit firms and listed companies. Furthermore, the regulator accepted openly that it was lenient towards companies’ levels of non-compliance with IFRS requirements during the first year of implementation (cf. Avlonitis, 2007; Vroustouris, 2007). This is also confirmed by the absence of sanctions for non-compliance with the requirement for reconciliation statements.

⁵¹ The term ‘lemon’ is used by Akerlof (1970) as a reference to ‘bad’ cars in the US. See below discussion about the ‘market for lemons’.

Second, since regulatory requirements were neglected by listed companies in the period under investigation, the incentives for providing or not providing required disclosures could be heavily influenced by factors related to the provision of voluntary disclosures (see discussion in the previous section). Thus, the present study draws upon voluntary disclosure theories for providing explanatory grounds for the levels of compliance identified. This is in line with Dye (2001: 184), who explains that ‘there is, presently, no received theory on mandatory disclosures in accounting’. It is also in line with the approach followed by previous researchers engaging with similar types of research (e.g. Abd-Elsalam and Weetman, 2003; Hodgdon et al., 2008; Hassan et al., 2006; Ali et al., 2004).

Following from the above, the next section analyses, in more detail, the theoretical framework employed to explain the compliance levels identified in this study. However, not all theories relating to voluntary disclosures appear to be equally relevant. Those theories considered to be relevant for the objectives of the present research can be grouped into three categories: costs based theories; agency theory; and capital market based theories.⁵²

4.3 Literature Review

4.3.1 Costs based theories

It was argued above that management considers the trade-off between the direct and indirect costs and benefits of voluntary disclosures (cf. Gray et al. 1990). This issue has more profound implications when managers make a rational decision on whether

⁵² Legitimacy theory is also an insightful theory for disclosures. Lindblom (1994: 2, cited in Deegan and Unerman, 2008: 271), defines legitimacy as ‘...a condition or status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part.’ On that basis, legitimacy theory is more relevant to explain a company’s disclosures as a response to society’s expectations on how a company conducts its operations. Tinker and Neimark (1987) explain that society increasingly expects companies to ensure the health and safety of employees and to repair or prevent damage to the environment. Since these types of disclosures are not mandated by IFRS they tend to appear within companies’ social responsibility reports and not within the notes accompanying the financial statements. On that basis, legitimacy theory is not considered of relevance in the present study. Considering that stakeholder and institutional theories are overlapping with legitimacy theory (Deegan and Unerman, 2008) they are also not perceived relevant in the present study.

to comply with mandatory disclosures. Thus, information and political costs approaches are particularly relevant for the present study.

4.3.1.1 Information costs

Direct information costs are increased with the introduction of disclosure regulation Benston (1985). Companies have to incur expenses for staff training, employing consultants, and gathering the information needed, processing it and presenting it. These costs are quantifiable, and assuming that it knows the *marginal benefits* arising from providing the mandatory information, management will provide the information to the point that the marginal benefits equal the *marginal costs* (Deegan and Unerman, 2008). Hence, direct information costs become very influential during the rational decision making process on whether to comply. This is particularly relevant to the present research since IFRS were substantially different from Greek GAAP and there is evidence that companies did expect high direct information costs to arise as a result of the implementation of IFRS (cf. Grant Thornton and AUEB, 2003).

Indirect costs include those arising from the impact of disclosures on companies' activities and/or decisions (Leventis, 2001 with reference to Lev, 1992). This is mainly referred to as disclosure of 'proprietary' information. 'Proprietary information is defined as information whose disclosure reduces the present value of cash flows of the firm endowed with the information' (Dye, 1986: 331). High compliance with accounting standards' requirements may result in a higher amount of 'proprietary' information being disclosed. This is based on the argument that mandatory disclosures bind the companies to disclose both 'good news' and 'bad news' (cf. Verrecchia, 2001). This can provide more incentives for non-compliance because 'a value maximising manager will be unlikely to make potentially damaging [to the company's value] disclosure' (Dye, 1986: 333). However, a counter argument could be that of Skinner (1994), who argues that, in order to avoid litigation, managers may be willing to disclose 'bad news'. Thus, to avoid '*litigation costs*', a company may be tempted to comply with all disclosures mandated by IFRS, even if they lead to disclosure of proprietary information.

Although a strong relationship between information costs and mandatory disclosures is expected, the above discussion and the mixed findings in the literature (e.g. Verrecchia, 1983; Dye, 1985) do not allow for predicting the direction of this relationship.

4.3.1.2 Political costs

Political costs theory may provide additional theoretical grounds that explain levels of compliance with mandatory disclosures. As argued by Watts and Zimmerman (1978), companies, particularly large ones or those with excessively large profits, are sensitive to the public eye. This means that they are under the scrutiny of various groups, for example, the government, employee unions and environmental lobby groups (Deegan and Unerman, 2008). Politicians could act against large or highly profitable companies with the argument that it is in the ‘public interest’ while they actually act in their own interest, to gain more votes (Watts and Zimmerman, 1979). This leads companies to apply tax-driven accounting policies (Watts and Zimmerman, 1978; Hagerman and Zmijewski, 1979) and provide high voluntary disclosures (Lim and McKinnon, 1993).

Not complying with mandatory disclosures could provide an extra motivation for politicians to scrutinise companies’ financial statements. In addition, the regulatory body may identify instances of non-compliance by politically sensitive companies and inform the government. Accordingly, even if companies do not face the risk of regulatory engagement in the period under examination, they may face the risk of attracting the government’s attention, with the latter acting against companies in relation to other matters, e.g. conducting tax audits resulting in tax penalties.

This is of particular relevance in the present context. As explained above, although the regulatory body in Greece is now considered to be independent, it still operates under the government’s influence. Additionally, Greek companies apply tax-driven policies (Baralexis, 2004; Tzovas, 2006; Tsakumis et al., 2007) and are sensitive to any actions which may result in tax penalties (cf. Papas, 1993).

This allows one to expect a positive relationship between political costs theory and levels of compliance with mandatory disclosures (in order to avoid providing motivation which may trigger political action). This has been hypothesised in the literature of voluntary disclosures (e.g. Camfferman and Cooke, 2002; Leventis, 2001; Raffournier, 1995).

However, Wallace (1987), Wallace et al. (1994) and Wallace and Naser (1995) hold the view that, because comprehensive disclosure may trigger political action, politically sensitive companies may disclose less information in an attempt to limit such attacks (Vlachos, 2001). On that basis, the sign of the relationship between levels of compliance with mandatory disclosures and political costs is difficult to predict.

4.3.2 Agency theory

Agency theory is concerned with the relationships between agents and principals, i.e. companies' managers and shareholders respectively (Morris, 1987). Jensen and Meckling (1976: 308) provided the clear foundations of the agency relationships:

‘a contract under which one or more persons (principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent’.

This assumes that a corporation is ‘a set of contracts among various parties who have a claim to a common output’ (Smith and Watts, 1983: 3). However, separation of ownership and control creates conflicts between the agents and the principals, especially if one assumes that any individual's main purpose is the maximisation of his or her personal wealth. The latter is a fundamental assumption of agency theory which is concerned with the mechanisms that ensure that actions that benefit the managers also benefit companies.

Agents are relatively autonomous in taking decisions. This and the fact that there is differential risk aversion on the part of the agent constitute two fundamental

elements within the agency framework. From these, two important implications arise. First, principals are faced with the outcomes of the agents' actual actions without being able to monitor and evaluate them fully. This results in the 'moral hazard' problem i.e. the principal is exposed to risks that he/she cannot control and that possibly do not lead to outcomes which are in his/her best interest. Second, the optimality of management's decision is unknown to the principal. This results in the 'adverse selection' problem i.e. leading to the prices of 'good' companies being sub-optimal. These information asymmetries generate 'agency costs', which can be disaggregated across agency costs of equity and agency costs of debt (Morris, 1987).

Agency costs of equity relate to the decline in the company's value when the principals believe that the agents do not pursue optimal decisions (i.e. adverse selection problem). They also relate to the costs of monitoring and bonding managers to assure that they act on the principal's interest. Agency costs of debt refer to the likelihood of agency costs that the debt holders incorporate in the price they pay for debt. Some examples include: distribution of excessive dividends, unprofitable investments, reorganisation or bankruptcy costs as well as monitoring and bonding costs (Morris, 1987). Similar implications arise from the excessive borrowing from banks. The latter may well increase monitoring costs (cf. Watson et al., 2002).

Jensen and Meckling (1976) suggest that agency costs could be eliminated if incentives, including bonding and compensation plans, are provided to managers. Additionally, monitoring procedures, including the production of accounting reports, could facilitate this purpose (Morris, 1987).

While these are considered to be internal mechanisms of reducing agency costs, Fama (1980) argues that agency costs can be reduced to zero by market forces within and external to the company (Morris, 1987). In fact, Fama and Jensen (1983a and 1983b) suggest three market-related safety measures – known as 'market discipline': the market for managerial skills; the market for corporate control; and the market for corporate securities (Leventis, 2001).

The first relates to the reputation of management which in the long-run will ‘pay off’ managers for being trustworthy and efficient. This motivates managers to act in the interest of principals (Coughlan and Schmidt, 1985). Second, Jensen and Ruback, (1983: 5) describe the market for corporate control as ‘an arena in which managerial teams compete for the right to manage corporate resources’. Thus, Coughlan and Schmidt (1985) explain that poorly managed and inefficient companies can become targets for take-over bids. The threat of hostile acquisitions may act as an incentive for managers to pursue shareholders’ wealth maximisation. Finally, Benston (1982) argues that share prices reflect managerial effectiveness and this is rewarded when companies seek finance from securities markets. This also results in managers pursuing the maximisation of shareholders’ wealth.

Based on the above, it may be argued that increased mandatory disclosures reduce agency costs deriving from information asymmetries and strengthen the reputation of the management. Thus, management has incentives to provide a high level of compliance with IFRS mandatory disclosures.

Although being very influential and extensively employed in the literature, agency theory has been heavily criticised (e.g. Puxty, 1985; Amstrong, 1991; Ogden, 1993). For example, Tinker et al. (1985) have stressed that agency theory ignores socio-economic context and institutional background. In support of this, one could argue that agency theory may not be relevant for the purposes of the present study because of the particular institutional background of Greece. As discussed above, there is high ownership concentration in Greece and family owners tend to be involved in the management of companies, thus reducing the separation of ownership and control.

However, ASE is considered to be a developed market with many foreign investors following Greek companies. Thus, agency theory explanations are expected to apply in the context of the present study.

4.3.3 Market based theories

Agency and free market theory make strong assumptions about the way that stock markets operate. For example, the market principle of agency theory argues that managers want to signal that they pursue shareholders' wealth maximisation and that they are efficient. This assumes that there are ways managers can transmit such signals and that there are investors who 'receive' these signals. Market based theories have been developed in an attempt to provide further explanations for the provision of such disclosures. The theories falling into this category, i.e. signalling, capital need and efficient market theories, are discussed below.

4.3.3.1 Signalling theory

Signalling theory is concerned with problems relating to information asymmetries in markets and illustrates how these asymmetries can be reduced by the party with more information signalling it to others (Morris, 1987). Akerlof (1970) illustrates that, in the existence of uninformed buyers, all products are valued at an average price based on buyers' *perceptions* about the quality of the products, but not their actual quality. This implies an opportunity loss for the sellers of higher quality products because the latter could have been sold at a higher price, i.e. the adverse selection problem discussed above. However, this loss can be reduced by communicating the higher quality of the products.

As far as corporate disclosures are concerned, managers with information that implies higher companies' valuations than those assigned by the market will increase their disclosures with the intention that share prices will be revised upwards (Lev and Penman, 1990). In contrast, managers with information that implies values lower than those set by the market will remain silent. The absence of disclosures will be interpreted by the market as the company being a 'lemon', i.e. no information is perceived as bad information (cf. Akerlof, 1970). This will result in those companies' shares being re-valued downwards. Subsequently, this downward price revision of non-disclosing companies will encourage even further those companies with 'good news', to 'screen' themselves out of the group by disclosing this information. This

process continues ‘until the positions of all firms in the valuation hierarchy are identified’ (Lev and Penman, 1990: 49).

This ‘market for lemons’ perspective provides an incentive for managers to release available information as failure to do so may lead to an increase of agency costs. Thus, ‘non-lemon owners have an incentive to communicate’ (Spence, 1974: 93).⁵³ However, some studies which model signalling effects (e.g. Teoh and Hwang, 1991; Skinner, 1994) argue that managers of good companies may withhold the ‘good news’ for a short period of time.

Signalling theory is considered to be particularly relevant for the purposes of the present study. The transition to IFRS and the increase in disclosures required provide ‘good’ Greek companies with the opportunity to ‘screen’ themselves from those perceived to be of lower quality.

4.3.3.2 Capital need theory

Capital need theory posits that a primary motivation for companies to increase disclosures is the need to raise capital (Abd-Elsalam, 1999). Higher levels of financial disclosures may be perceived by managers as leading to lower cost of new capital because they reduce information asymmetries (Choi, 1973; Firth, 1980; Cooke, 1993).

The literature regarding the provision of voluntary disclosures illustrates that there is indeed a relationship between disclosures and companies’ risk and thus cost of capital (e.g. Welker, 1995; Botosan, 1997; Francis et al., 1997; Sengupta, 1998; Rashid, 2000; Hail, 2002; Botosan and Plumlee, 2002; Kothari and Short, 2003; Francis et al., 2005; Gietzmann and Ireland, 2005).

Although the relationship is negative in the majority of cases, Spero (1979) argues that, depending on the type of information disclosed, the relationship may be positive

⁵³ Mostly with reference to voluntary disclosures, it could be added that signalling may result in companies disclosing unreliable or misleading information (Coffee, 1984). However, the benefit will be short-term (Bird and Locke, 1981) because the signal should be confirmable with the actual quality of the ‘product’ and thus the market will revise market values accordingly (Morris, 1987).

or that there may not even be any relationship. Information which increases market uncertainty will lead to an increase in the cost of capital (Leventis, 2001).

Even though there is little empirical evidence about the economic consequences of mandatory disclosures (Bushee and Leuz, 2005; Leuz and Wysocki, 2008), it is assumed that capital need theory is also relevant for the objectives of the present study. In fact, Al-Shiab (2003) reports that compliance with IAS mandatory disclosures in Jordan, has a cumulative effect on cost of capital. Hence, considering that the objective of a company for being listed is to attract finance and that companies ‘compete’ in stock markets (Leventis, 2001), managers have the incentive to provide enhanced mandatory disclosures so as to attract more finance from investors. (section 5.4.2.3 explains in more detail how information required by IFRS mandated disclosures could provide investors with more information regarding a company’s risk and future prospects).

4.3.3.3 Efficient market

A key factor for the applicability of the above theories is the level of market efficiency in the country in which disclosure issues are explored. Market efficiency is concerned with the way that information is absorbed and processed by market participants. Thus, financial information holds a key role for the level of market efficiency. Fama (1970: 388) defines three forms of market efficiency. The *weak form* implies that the price of a share at a particular point of time is a reflection of the sequence of its historical prices. The *semi-strong form* posits that the price of a share reflects all the publicly available information about a company (including any information provided in annual reports). The *strong form* asserts that a price of a share reflects *all* the information being available for a company, even the information being available to a group of individuals who have monopolistic access to it.

According to Keane (1993), prerequisites for a market to be informationally efficient are: a relatively strongly regulated accounting and auditing profession; clear and distinct information needs of the market participants; and quick and wide dissemination of the information provided by companies. These should also be

supported by an efficient ‘institutional infrastructure’ (e.g. sophisticated and well-informed investors and analysts, effective investor protection mechanisms, systematic and rigorous monitoring of insider trading).

According to Watts and Zimmerman (1986: 19) and Deegan and Unerman (2008: 259), the available evidence is generally consistent with the existence of the semi-strong form of market efficiency. Although there is no research which has directly tested the market efficiency of the Greek stock-market, it could be argued that characteristics of the semi-strong form of efficiency apply.

On the one hand, the accounting and auditing profession is relatively young and weak, and there is low investor protection. On the other hand, ASE has been considered to be a developed market for almost ten years and there are large numbers of foreign investors following Greek companies (see chapter 2). Moreover, there are studies indicating that current accounting data are value relevant (e.g. Dimitropoulos and Asteriou, 2009; Karathanassis and Spilioti, 2005; Hevas, 2005; Hevas and Papadaki, 2001; Hevas et al., 2000) and that quantifiable qualifications in audit reports are valuable to investors (Ghicas et al., 2008). This implies that currently available information is reflected on share prices. This allows for hypothesising that market based theories do provide a grounded framework for the purposes of the present study.

4.4 Prior Empirical Studies

This section highlights the findings of prior research which has explicitly examined companies’ compliance with mandatory disclosures as it is relevant to the objectives of the present study. Section 4.4.1 highlights prior findings regarding companies’ compliance with national standards and regulations. Section 4.4.2 highlights findings regarding compliance with IFRS in particular. The majority of these studies have explored the potential characteristics that may be related to the companies’ extent of compliance. However, because of differences in the research design and the different institutional settings (including enforcement), the explanatory factors of compliance

identified are not consistently significant. The findings of prior research regarding this aspect are discussed in section 4.5.

4.4.1 Compliance with national standards' mandatory disclosures

Table 4.1 provides a summary of the reviewed disclosure studies that examined compliance with national standards and regulations. These studies are classified according to the chronological order of the financial year examined (i.e. not year of publication). Various inferences can be drawn from the findings of these studies.

From the 16 studies identified, four examine companies' compliance during the late 1980s, 11 studies are based on samples during the 1990s and only one study examines compliance after 2000. In contrast to the present study, none of those is focused on a developed country, based on a recent sample. Additionally, with the exception of Ali et al. (2004) which is a multi-country study and Owusu-Ansah and Yeoh (2005) who examine a sample of 50 companies over a four year period, the remaining studies use significantly smaller samples than the present study. Only the study of Craig and Diga (1998) employs a sample of a similar size (145 companies) although it is a multi-country study.

Furthermore, and of particular relevance for the objectives of the present research is the fact that, 14 out of the 16 studies employ only one disclosure index method (the commonly used dichotomous approach, see 4.6.2) for measuring compliance. Naser and Nuseibeh (2003) employ the commonly used dichotomous approach and a weighted index based on the mean and median responses of seven users of financial statements in the country which the study focuses (i.e. Saudi Arabia). Instead, Patton and Zelenka (1997) follow the commonly used dichotomous approach with two more alternatives. In particular, they construct a disclosure index which includes only those items which were expected to apply to most companies (referring to it as the 'narrow' index). The other two indices 'include the initial index as well as items that may be more subject to the 'not applicable' problem; i.e. a 'somewhat broader' index and a 'broad' index' (Patton and Zelenka, 1997: 609).

The studies reviewed focus on companies operating in significantly different institutional settings (including enforcement) and thus caution is needed when one tries to compare their findings and draw conclusions. In fact, Craig and Diga (1998) identify significantly different compliance levels across countries in the ASEAN region. Additionally, the samples refer to different periods, and all studies employ self-constructed indices⁵⁴ which may increase subjectivity of the scoring process.⁵⁵

However, it is notable, that these studies reach similar conclusions. It is common that companies do not comply fully with national accounting standards' disclosure requirements. In particular, compliance levels are very rarely close to or even higher than 90%, with the majority of studies reporting average compliance levels of approximately 70% to 80%. Great variability in the compliance scores is also documented.

⁵⁴ The exception is the study of Tai et al., 1990 which uses an index provided by an audit firm.

⁵⁵ An indication of the potential impact of the structure of the research instrument and different sample is provided if one examines the findings of Ali et al. (2004) and Akhtaruddin (2005). The latter focuses explicitly on Bangladesh and examines the extent of mandatory disclosures by 94 listed companies in 1999. Ali et al. (2004) *inter alia* examine a sample of 118 companies from Bangladesh with reference to 1998. Akhtaruddin's (2005) research instrument includes fewer items than that of Ali et al. (2004) and he finds substantially lower levels of compliance. More specifically, he finds that companies, on average, disclose 44% of the items of information mandated by the accounting standards whilst Ali et al. (2004) report a compliance score of 78%. This example illustrates that researchers need to be cautious when making comparisons of findings of studies having implemented different research design.

Table 4:1: Prior research on compliance with national standards' mandatory disclosures.

Authors	Country	Year	Sample	Research instrument	No. of disclosure index methods employed	Findings
<i>Tai et al. (1990)</i>	Hong Kong	1986	76	Disclosure checklist provided by a (then) 'Big 8' audit firm	1	Average compliance: 78%. Very low compliance levels regarding specific areas (e.g. 49% in relation to depreciation)
<i>Cooke (1992)</i>	Japan	1988	35	Self-constructed index	1	Average compliance: 95%. Standard deviation: 3%.
<i>Solas (1994)</i>	Jordan	1988	45	Self-constructed index	1	Average compliance: 46.35%. Standard deviation: 1%.
<i>Ahmed and Nicholls (1994)</i>	Bangladesh	1988	63	Self-constructed index	1	Only four companies exhibit compliance above 90%. 37 companies are to be found in the range of 60-80%.
<i>Abayo et al. (1993)</i>	Tanzania	1990	51	Self-constructed index	1	Average compliance: 53%. Range between 31% and 72%.
<i>Wallace and Naser (1995)</i>	Hong Kong	1991	80	Self-constructed index	1	Average compliance: 73%. Range between 55% and 87%
<i>Wallace et al. (1994)</i>	Spain	1991	50	Self-constructed index	1	Average compliance: 59%. Range between 29% and 80%.
<i>Naser and Nuseibeh (2003)</i>	Saudi-Arabia	1992 & 1999	67	Self-constructed index	2	In contrast to other studies, they <i>inter alia</i> report a high degree of compliance (average: 89%).
<i>Owusu-Ansah and Yeoh (2005)</i>	New Zealand	1992 1993 1996 1997	50	Self-constructed index	1	Compliance levels increased throughout this period from an average of 78% in 1992 to an average of 88% in 1997. The standard deviation of the scores has dropped as well (from 4.3% 1992 to 2.87% in 1997).
<i>Patton and Zelenka (1997)</i>	Czech Republic	1993	50	Self-constructed index	3	They report large variability in the compliance scores: from 25% to 80%.

Table 4.1 (continued): Prior research on compliance with national standards' mandatory disclosures.

Authors	Country	Year	Sample	Research instrument	No. of disclosure index methods employed	Findings
<i>Craig and Diga (1998)</i>	Singapore, Malaysia, Indonesia, the Philippines & Thailand	1993	145	Self-constructed index	1	Relatively low mean levels of disclosures, ranged from 51% - 61%.
<i>Owusu-Ansah (1998b)</i>	Zimbabwe	1994	49	Self-constructed index	1	Average compliance: 74%. Relatively small standard deviation (5%).
<i>Vlachos (2001)</i>	Greece Cyprus	1996	74 50	Self-constructed index	1	Average compliance: 89% Small standard deviation of 2.3%. (With reference to the 74 Greek companies)
<i>Ali et al. (2004)</i>	India, Pakistan & Bangladesh	1998	566	Self-constructed index	1	Average compliance approximately 80% for each country. Relatively large average standard deviation of 8%
<i>Akhtaruddin (2005)</i>	Bangladesh	1999	94	Self-constructed index	1	Average compliance: 44% Small standard deviation (1.2%).
<i>Aljifri (2008)</i>	United Arab Emirates	2003	31	Self-constructed index	1	Average compliance: 67% Small standard deviation (11%).

With reference to Greece, there is only one study (that of Vlachos (2001)) which examines listed companies' compliance with the disclosure items mandated by the Greek GAAP. The sample consists of 74 companies' financial statements with reference to the year 1996. He finds an average compliance level of 89% with a small standard deviation of 2.3%.

The findings of this study have to be treated with caution because they may be biased towards companies that provided high levels of disclosures. At that time, very few companies provided in public notes to the financial statements thus, those that provided an annual report might have been 'committed' to higher disclosure levels. Another feature of Vlachos' (2001) research is that:

‘the study also captures an element of voluntary disclosure (as in the case of Wallace et al., 1994 and Wallace and Naser, 1995). This is because the information items required to be disclosed (mandatory information) have been disaggregated into sub-elements of information that should or could have been disclosed; usually the disclosure of those sub—elements of information is essentially a matter of managerial choice (Barrett, 1976)’ (Vlachos, 2001: 9)

Finally, at that period ASE was an emerging market which implies that financial statements were of less importance compared to 2005 which is the year under investigation in the present research.

4.4.2 Compliance with IFRS mandatory disclosures

Table 4.2 provides a summary of the reviewed disclosure studies examining compliance with IFRS (referred to as IAS before 2001).⁵⁶ This summary also allows for several inferences to be drawn.

⁵⁶ A multi-country study which also measures compliance with IAS mandatory disclosures is that of Hodgdon et al. 2008. However, the focus of the study is the relationship between compliance levels and analysts' forecasts errors. Thus, its findings are discussed in section 5.4.2.1 and reference to the methods used is provided in 4.6.2.

Table 4:2: Prior research on compliance with IAS/IFRS mandatory disclosures.

Authors	Country	Year	Sample	Research Instrument	No. of disclosure index methods employed	Findings
<i>Abd-Elsalam and Weetman, (2007)</i>	Egypt	1991/ 1992 1995/ 1996	72 (only 20 for 1991/ 1992)	Self-constructed index	1	Compliance of 76% in the first period with a standard deviation of 5%. Compliance increase in the second period (84%) but standard deviation also increases (7%).
<i>Abd-Elsalam and Weetman, (2003)</i>	Egypt	1995/ 1996	72	Self-constructed index	1	Average compliance: 83%. This was 73% when referring to the newly introduced disclosure items. It was even lower (36%) when referring to items which hadn't been translated to the Arabic language.
<i>Hassan et al. (2006)</i>	Egypt	1995- 2002	77	Self-constructed index	1	Average compliance score for the entire period: 90%.
<i>Al-Shiab (2003)</i>	Jordan	1995- 2000	50	Self-constructed index	1	Companies' level of compliance ranged between 45% and 56%. <i>(Also relevant to the purposes of the present study (next chapter): this research also examines the valuation implications of mandatory disclosures. A cumulative effect on companies' cost of capital is reported with regard to companies' levels of compliance.)</i>
<i>Street et al. (1999)</i>	12 Different countries	1996	49	Self-constructed index	1	20 companies complied in full. For the remaining companies, compliance with individual standards was relatively low.
<i>Al-Shammari et al. (2008)</i>	Bahrain, Oman and Kuwait	1996 - 2002	137	Self-constructed index	1	Compliance increased over time, from 68% in 1996 to 82% in 2002. Significant variation of compliance levels across different countries is reported.

Table 4.2 (Continued): Prior research on compliance with IAS/IFRS mandatory disclosures.

Authors	Country	Year	Sample	Research instrument	No. of disclosure index methods employed	Findings
<i>Tower et al. (1999)</i>	Australia, Hong Kong, Malaysia, Philippines, Singapore and Thailand	1997	60	Self-constructed index	2	Average compliance: 91%. Standard deviation: 4%.
<i>Street and Bryant (2000)</i>	17 Different countries	1998	82	Self-constructed index	1	The results indicate that the overall level of compliance was less than 75%. Large variability in the compliance levels is also identified in this study with companies exhibiting low levels of compliance with several individual standards.
<i>Street and Gray (2001)</i>	32 Different countries	1998	279	Self-constructed index	2	Companies' level of compliance ranged from 60% to 93%.
<i>Peng et al. (2008)</i>	China	1999 & 2002	79	Self-constructed index	1	Companies exhibit a relatively high compliance with the items mandated by Chinese GAAP (97% for both years). The compliance with IAS requirements improves from 86% in 1999 to 90% in 2002.
<i>Sucher and Alexander (2002)</i>	Czech Republic	1999	22	KPMG IAS disclosure checklist	Survey	A significant degree of non-compliance is reported. None of the companies fully complied with the five standards under review.
<i>Cairns (2001)</i>	29 Different countries (mainly in EU)	1999-2000	165	Survey	Survey	The study reveals that only 62% of the companies examined fully complied with the IAS.
<i>Glaum and Street (2003)</i>	Germany	2000	100 IAS 100 US GAAP	Ernst & Young disclosure checklist	1	Levels of compliance with IAS ranged from 41.6% to 100%, with an average of 81%. This was significantly lower compared to the compliance with US GAAP (87%).

Table 4.2 (Continued): Prior research on compliance with IAS/IFRS mandatory disclosures.

Authors	Country	Year	Sample	Research instrument	No. of disclosure index methods employed	Findings
<i>Gebhardt and Heilmann (2004)</i>	Germany	2000	59 (with reference to IAS)	Self-constructed index	1	Compliance was particularly low for IAS 7.
<i>Securities and Exchange Committee (SEC) (2006)</i>	Different countries	2005	100	Survey	Survey	With regard to disclosures in particular, some of the areas identified include the following: revenue recognition, goodwill and intangible assets, financial instruments, leases and contingent liabilities.
<i>ICAEW (2006), on behalf of the European Commission</i>	Different European countries	2005	200	Survey	Survey	This survey <i>inter alia</i> identifies some compliance issues regarding disclosures relating to: business combinations, goodwill and impairment testing.
<i>Fekete et al. (2008)</i>	Hungary	2006	17	Self-constructed index	1	Average compliance: 62%. 5 companies exhibiting compliance levels lower than 50% and 2 exhibiting full compliance.

Interestingly, the levels of compliance with IAS/IFRS mandatory disclosures identified look very similar to those regarding disclosures mandated by other national standards, as illustrated in the previous section. It is common that companies do not comply fully with IAS/IFRS disclosure requirements and low compliance levels are not rare. A great variability in the compliance scores is also documented.⁵⁷

In line with Craig and Diga (1998), Tower et al. (1999), Street and Gray (2001) and Al-Shammari et al. (2008) provide empirical evidence that this depends on the companies' country of domicile, i.e. compliance levels depend on the particular financial reporting system of each country. This allows for the conclusion that adoption of IAS/IFRS does not necessarily lead to higher provision of mandatory disclosures.

Cairns (2001) also points out that few of the companies examined in his study were actually required to comply with IAS (this also applies to some earlier studies (e.g. Street et al., 1999)). Arguably, many companies could have adopted IFRS as a symbol of legitimacy but without fully complying with their requirements. This phenomenon is called 'formal compliance' (McBarnet, 1984); i.e. companies' financial reports claim compliance with certain accounting standards while managers do not implement them completely (Touron, 2005: 853). On that basis, the above mentioned issue of formal compliance (or 'IAS lite' compliance' as Cairns refers to it) was expected.

Another feature of the studies reviewed is that their samples refer, mainly, to the late 1990s and early 2000s. With the exception being the working paper of Fekete et al. (2008), none of the academic studies examines compliance with IFRS mandatory disclosures after their implementation in the EU in 2005. Even those studies that include companies from the early 2000s examine compliance with older versions of IAS, i.e. not the revised IAS and newly introduced IFRS which were intended to provide a 'stable platform' regarding the first years of IFRS mandatory implementation in the EU. Fekete et al. (2008) focus on compliance with the

⁵⁷ The argument about caution needed when comparing findings of such studies also applies here.

requirements of four standards (IFRS 3, IAS 27, IAS 28 and IAS 31) and the sample consists only of 17 Hungarian companies.

The two surveys of SEC and of the Institute of Chartered Accountants in England and Wales (ICAEW) provide also some preliminary evidence regarding EU companies' levels of compliance with IFRS mandatory disclosures after 2005. However, their findings are mainly descriptive in nature. Thus, the SEC reported that they 'have not yet reached any comprehensive conclusions about companies' overall compliance with, or consistency in application of, IFRS'.⁵⁸

A further finding of this review is that Al-Shiab (2003) reports low average compliance scores compared to other studies examining compliance with IAS disclosure requirements in emerging markets in a similar period (e.g. Hassan et al. (2006) with regard to Egypt). More specifically, companies' level of compliance ranged from 45% to 56%. Although this may depend on the specific characteristics of the financial reporting system in Jordan, it is also attributable to the different method used for measuring compliance. This tends to produce more 'conservative' (i.e. lower) compliance scores (see 4.6.2 and 4.6.3 for more details).

Additionally, similar to the studies discussed in the previous section, the majority of studies employ only one disclosure index method for measuring compliance with IAS/IFRS mandatory disclosures (the commonly used dichotomous approach). Street and Gray (2001) use both this method and the one that Al-Shiab uses but do not test the significance of the differences in the compliance scores identified. It is worth mentioning that they find different significant associations under each method between the dependent variable (compliance score) and a number of independent variables.⁵⁹

Finally, there is very little evidence regarding Greek listed companies' compliance with IAS/IFRS. In particular, only Cairns (2001) includes financial statements of

⁵⁸ http://www.sec.gov/divisions/corpfin/ifrs_staffobservations.htm (last accessed on 8 June 2009)

⁵⁹ Tower et al. (1999) is the only other study employing two methods for measuring compliance with IAS mandatory disclosures. They follow a similar approach to that of Patton and Zelenka (1997) discussed above.

Greek listed companies (three) which claimed that they had adopted IFRS in addition to Greek GAAP.⁶⁰ He reports that only one of the three companies provided full IFRS consolidated financial statements. The other two did not provide cash flow statements and accounting notes.

4.4.2.1 General observations – the present study

The consistent findings of low compliance with mandatory disclosures IFRS or other national accounting standards' allow for the conclusion that, although companies are expected to comply with the mandated disclosures, they rarely do so in full. Therefore, these findings provide solid grounds for the concerns regarding the 'quality' of financial statements after the adoption of IFRS in the EU (e.g. Nobes, 2006; Weetman, 2006; Ball, 2006; Schipper, 2005). With regard to the present study, they suggest that compliance levels with IFRS mandatory disclosures may also be low for Greek listed companies.

From a methodological point of view, the present study also claims more robust findings compared to those provided by prior studies. In particular, the present research employs two methods for measuring compliance with IFRS mandatory disclosures and tests the significance of the differences in the compliance scores identified. Additionally, this study considers as valid findings only those factors that appear to be significant under both methods.

Finally, these reviews also illustrate that there is no recent large scale academic study exploring companies' compliance with all IFRS mandatory disclosures after 2005 (or other national standards' mandatory disclosures in general). The present study addresses this gap in the literature and contributes to the recent calls for this type of research.

⁶⁰ As discussed previously, very few Greek companies had adopted IAS/IFRS before 2005.

4.5 Development and Formulation of Testable Hypotheses

The discussion in section 4.3 provides the theoretical framework facilitating identification of the corporate characteristics which may explain companies' level of compliance with IFRS mandatory disclosures in 2005. This approach perceives disclosures as an endogenous choice that is related to companies' fundamentals or other characteristics. Forming and consequently testing specific hypotheses regarding the relationship of those characteristics and companies' level of compliance provides an answer to the third research question of this thesis (Q3).

Prior studies have suggested and tested several variables as explanatory factors for compliance with mandatory disclosures. The variety of the variables examined is, mainly, a result of the objectives of each particular study and the availability of data examined. In this study, the following criteria were applied for selecting the variables to be tested (cf. Leventis, 2001; Vlachos, 2001; Owusu-Ansah, 1998b): *First*, the existence of theoretical frameworks and/or the results of empirical studies should indicate the association of a particular characteristic and compliance with mandatory disclosures. *Second*, testing a particular variable should meet the objectives of the present research. *Third*, the variables selected should be able to be measured reliably and obtainable from dependable sources. *Fourth*, the variables tested should be of particular importance/relevance to the Greek setting.

As was indicated in 1.4.4 the present research complements and extends prior literature in the following way. The unique setting, i.e. measuring compliance with IFRS mandatory disclosures during the first year of implementation, allows also for examination of the possibility that the change in the 2004 shareholders' equity and net income, as a result of the adoption of IFRS, constitute also explanatory factors for compliance. Thus, this study hypothesises that *inter alia* not only financial measures can be proxies for explaining compliance as derived by relevant theories. It argues that, in addition, a significant change in fundamental financial measures, because of the change in the accounting regime, may also explain compliance.

More specifically, research has indicated that information reported in reconciliation statements is perceived as meaningful by investors (e.g. Christensen et al., 2007), who are considered to be among the main users of financial statements by the IFRS *Framework*. Therefore, the behaviour of managers regarding the amount of overall disclosures provided may be influenced by the impact of IFRS on company key measures, as this can be assessed through the reconciliation statements and the 2004 restated comparative figures.

This context is of particular relevance for the present study since the extent of companies' compliance with mandatory disclosures is examined for the same period (i.e. 2005) in which the impact caused by the adoption of IFRS became known to users of the financial statements.

On that basis, eight variables have been chosen for the purposes of the present research. In accordance with Camfferman and Cooke (2002) (with reference to Lang and Lundholm, 1993) these are classified as: structure-related; performance-related; and market-related variables. The development of hypotheses with regard to the variables within these categories is provided below. The surrogates employed for those variables are discussed in 4.6.4.

4.5.1 Structure-related variables

This first category of variables includes characteristics that usually are stable over time. Consistent with prior literature, the first two considered here are size and gearing. In addition, the findings of the previous chapter suggest that a structural change in the financial position of Greek companies took place on transition to IFRS. Shareholders' equity, and in turn gearing and liquidity, were affected significantly. Thus, the present research also considers, as a third structure-related variable, the impact on shareholders' equity as a result of the transition to IFRS.

4.5.1.1 Size

Size has been tested by almost all studies that have explored factors which may be associated with companies' compliance with mandatory disclosures. Although, in most cases, size is found to be significantly associated with levels of disclosures, it offers limited theoretical insight. This is because it can be used for testing the applicability of almost all disclosure theories (Leventis, 2001) and hence it is correlated with other variables (Hossain et al., 1994).

First, size can be a proxy for information costs as it is more likely that large companies have the resources and expertise to provide higher compliance levels with mandatory disclosures (Ali et al., 2004). Large organisations are more complex and produce detailed information for internal consumption which results in them possessing superior information systems and thus incurring lower direct costs (Camfferman and Cooke, 2002; Lang and Lundholm, 1993). Additionally, large companies can be attractive to highly skilled employees (in the present case with knowledge of IFRS) who may be more capable in applying the Standards' requirements in full. Furthermore, Verrecchia, (1983) argues that proprietary costs (i.e. indirect costs) are smaller as company size increases. Finally, the discussion provided by Goodwin and Ahmed (2006) regarding the ongoing debate prior to the Australian equivalents to IFRS on the cost/benefits for smaller companies is of particular relevance to the present research.

Second, as discussed above, size can be a proxy for political costs. Larger companies, being more visible, have greater incentives than smaller companies to comply with mandatory disclosures in order to avoid triggering government intervention (cf. Watts and Zimmerman, 1979; Holthausen and Leftwich, 1983; Watts and Zimmerman, 1990). However, as was indicated above, Wallace et al. (1994) and Wallace and Naser (1995) posit the exact opposite relationship between compliance with mandatory disclosures and political costs.

Third, because of lower ownership concentration, monitoring procedures become more difficult and costly in larger companies (Jensen and Meckling, 1976). Thus,

larger companies incur higher agency costs compared to smaller companies (Cooke, 1991) and, accordingly, size can also be used as a proxy for agency costs.

Fourth, small companies are not followed by investment analysts and the media to the same extent as large firms (Barry and Brown, 1986; Schipper, 1991; Hussain, 2000). As a result, in line with capital need theory, compliance with mandatory disclosures may lead to higher analyst following and lower cost of capital. (This argument derives from the overwhelming evidence regarding voluntary disclosures).

A positive association between companies' size and compliance with mandatory disclosure is more often documented in prior literature (e.g. Cooke, 1992; Wallace et al. 1994; Wallace and Naser, 1995; Craig and Diga, 1998; Owusu-Ansah, 1998b; Ali et al., 2004; Akhtaruddin, 2005; Al-Shammari et al., 2008). However, Ahmed and Nicholls (1994), Tower et al. (1999), Street and Bryant (2000), Street and Gray (2001), (Vlachos, 2001-with regard to Cyprus), and Glaum and Street (2003) find no significant relationship. Interestingly, Vlachos (2001) finds a significant but negative association between Greek listed companies' compliance with mandatory disclosures and size.⁶¹

Based on the mixed findings of the prior literature, although a significant association between size and companies' levels of compliance is hypothesised, no prediction regarding the sign of the relationship is attempted. Hence, the following hypothesis is formed:

H4.1 There is a significant association between the extent of companies' compliance with IFRS mandatory disclosures and companies' size.

4.5.1.2 Gearing

An important market force, potentially associated with companies' compliance with mandatory disclosures, is gearing. It can be a proxy for agency costs or signalling effects. With regard to agency costs, companies with higher gearing are more likely

⁶¹ Leventis and Weetman (2004a) find a positive association between levels of voluntary disclosures and size in Greece. However, this association is not significant for companies reporting only in Greek.

to be subject to higher equity risk. This results in shareholders demanding more information on whether the company is able to meet its debt obligations and on the level of risk of its investments. Further, agency costs of debt increase with company borrowing. A divergence of concerns between lenders and management results in the introduction of covenants into debt contracts and additional monitoring (Watson et al., 2002). Highly geared companies should therefore exhibit higher levels of compliance with mandatory disclosures to try and reduce monitoring costs (but see below).

However, a negative relationship could be hypothesised on the grounds of signalling theory (Watson et al., 2002). Companies with low gearing would provide high levels of mandatory disclosures to ‘screen’ themselves (Leventis, 2001; Abd-Elsalam and Weetman, 2003).

Additionally, a negative or even no relationship between gearing and compliance with mandatory disclosures could be the outcome of the particular features of the reporting system of the country in which companies operate. For example, this may be the case in code-law countries where banks are the main providers of finance (as is the case in Greece) (Camfferman and Cooke, 2002). In these cases, high levels of disclosures are redundant as companies have regular communication with the lenders. This is also argued by Zarzeski (1996) who finds lower debt ratios to be associated with higher levels of disclosures. Similar arguments are raised by Ali et al. (2004) with reference to South Asian countries where companies frequently have private communication with banks and debtors. Accordingly, this might well be the case in the present context since Greek companies are highly geared (Nobes and Parker, 2008: 30) and features of bank lending include close personal relationships between banks and companies (Ballas, 1994; Ballas et al. 1998; Baralexis, 2004, Tzovas, 2006).

As with size, prior literature reports mixed findings regarding the association between gearing and compliance with mandatory disclosures. Ahmed and Nicholls (1994), Wallace et al. (1994), Wallace and Naser (1995), Patton and Zelenka (1997)

Tower et al. (1999), Abd-Elsalam and Weetman (2003), Al-Shiab (2003) and Ali et al. (2004) find no statistical association. Al-Shammari et al. (2008) and Craig and Diga (1998) find a positive association.

Therefore, although a significant association between gearing and companies' level of compliance is hypothesised, no prediction regarding the sign of the relationship is attempted.

H4.2 There is a significant association between the extent of companies' compliance with IFRS mandatory disclosures and companies' gearing.

4.5.1.3 Changes in 2004 shareholders' equity, as a result of the transition to IFRS

As has been argued above, significant differences exist between IFRS and Greek GAAP. As a result, Greek companies' financial statements were affected significantly by the transition to IFRS. On that basis, the assumption that, a company's structure, as this expressed in the balance sheet, may stay stable over time may not be valid when companies moved to IFRS. This has particular relevance for the present study as it was expected that several intangible assets would be derecognised, treasury shares would be derecognised, whilst inventories and other assets would be impaired. Additionally, deferred tax assets would be recognised and land and buildings would be revalued. Furthermore, it was expected that liabilities would increase, as a result of the recognition of provisions for example. Hence, companies' shareholders' equity (and thus size and gearing as discussed above) would be affected considerably. This is supported by the findings in the previous chapter.

Prior literature indicates that companies' levels of compliance with mandatory disclosures are associated with shareholders' equity (e.g. Tai et al., 1990). Thus a significant change in that measure, as a result of the introduction of IFRS could have profound implications on managers' 'compliance behaviour', with reference to mandatory disclosures. This change was easily observable to users of the financial statements by looking at the reconciliation statements. There was no need for a user

to have the previous year's financial statements to compute the impact on the difference between the two measures. On that basis, managers may be very sensitive to how users of the financial statements would interpret a large difference in the two figures.

Accordingly, considering the implications deriving from the assumptions of agency and signalling theory discussed above, managers would have strong incentives to assess the trade-off between agency costs or signalling effects and the impact on their companies' financial positions as this caused by the transition to IFRS.

Companies which faced a significant positive impact could provide higher levels of mandatory disclosures, in accordance with signalling theory. It is highly probable that managers would try to 'exploit' this positive change by arguing that their companies' financial position was not reflected accurately in the past because of the low quality of Greek GAAP. Thus, a positive relationship between the impact on shareholders' equity (as a result of the transition to IFRS) and companies' compliance with mandatory disclosures may be identified.

In contrast, under agency theory, managers may well be under pressure to 'communicate' why such an improvement on companies' financial position arises, to pre-empt allegations of a significant change being due to fraudulent accounting practices. Additionally, companies with a significant negative impact will be under more pressure to explain why companies' financial position appears to be worse under the higher quality accounting standards (i.e. IFRS) which are believed to reflect companies' assets and liabilities more accurately.

Accordingly, the present research also considers, as a third structure-related variable, the impact on shareholders' equity as a result of the transition to IFRS. Thus, the following hypothesis is tested:

H4.3 There is a significant association between changes in shareholders' equity (as a result of the transition to IFRS) and the extent to which companies comply with IFRS mandatory disclosures.

4.5.2 Performance-related variables

A company's performance is sensitive to time conditions. Hence, management holds information that should be transmitted to investors in order to reduce information asymmetries regarding companies' performance within the period (Lang and Lundholm, 1993). The variables which can be proxies for performance are liquidity and profitability. In addition to those two variables and consistent with the arguments raised above, a further hypothesis regarding performance-related variables is tested in this study. This relates to the change in profitability as a result of the transition to IFRS.

4.5.2.1 Profitability and changes in net income as a result of the transition to IFRS

Similar to other corporate characteristics, profitability can be used as a proxy in several theories. As indicated above, as well as large companies, companies with excessive profits are assumed to be sensitive to political costs. Thus, a profitable company may have more incentives to provide higher levels of compliance with mandatory disclosures so as to avoid government intervention. However, as is the case for size, profitable companies may act in the exact opposite way, i.e. provide as little information as possible so as not to attract the public eye (Wallace et al., 1994).

Consistent with capital need theory and, mainly signalling theory companies with good performance may feel more comfortable being more transparent. This would provide them with the opportunity to signal their good performance and, arguably, good future prospects (cf. Inchausti, 1997) and avoids the 'adverse selection' problem. Finally, consistent with the 'market discipline' approach within agency theory, managers' may have more incentives to be more transparent about their companies' performance. The latter could be interpreted as the result of their personal efforts and ability to manage companies successfully and subsequently in seeking for further rewards (Singhvi and Desai, 1971) (either in the same company or by moving to another company which will offer them higher compensation).

However, profitability shares a similar limitation with size. Although it can serve as a proxy in several theoretical frameworks, the direction of its relationship with companies' levels of disclosures cannot be hypothesised. This is justified by the inconclusive findings of prior research. For example, Owusu-Ansah (1998a), Ali et al. (2004), Akhtaruddin (2005), and Hassan et al. (2006) find a positive association between profitability and companies' compliance. In contrast, Wallace et al. (1994) and Wallace and Naser (1995) identified a negative relationship between these two variables. Additionally, Street and Bryant (2000), Street and Gray (2001), Al-Shiab (2003), and Glaum and Street (2003) find no association between companies' profitability and compliance with mandatory disclosures. H4.4 is therefore stated as follows:

H4.4 There is a significant association between the extent of companies' compliance with IFRS mandatory disclosures and companies' profitability.

As discussed above, one major problem of the relationships between managers and shareholders is the fact that what investors may perceive as an optimal level of performance may differ from what is perceived by managers. In fact, managers may be in favour of a satisfactory but not an optimal level (Smith, 1976; Leventis, 2001).

In the Greek environment, where findings of earnings management have been consistently reported, the difference between management and shareholders on what is perceived to be optimal levels of performance might be more distinct. The introduction of IFRS was expected to cause a significant impact on companies' restated absolute values of net income regarding 2004. The impact identified in the previous chapter across a large number of companies confirms this expectation.

A significant difference in the restated figure might have a profound effect on managers' rational decision with regard to the extent to which they would comply with IFRS mandatory disclosures. A significant positive change would allow them to claim that previous year's performance was low, not because of their inefficiency but because Greek GAAP was of poor quality, i.e. it produces conservative reported performance. Thus, in line with signalling theory, high provision of mandatory

disclosures would be expected. This would encourage them to provide as much information as possible to claim that the company was performing well but the accounting rules did not allow for this to be reflected on the financial statements.

Drawing on agency theory, such an approach would be used to provide convincing information to the users of the financial statements that low profitability was not a result of creative accounting practices. However, also within the framework of agency theory, reporting substantially improved restated income values may trigger the suspicion of shareholders under the rationale that this improvement is a result of a ‘transitional big bath’. Hence, again, more disclosures might be provided but not necessarily with the intention to signal better performance. This would also facilitate the minimisation of agency costs. In contrast, a significantly negative restated performance would raise concerns of shareholders. This would imply that the performance last year was actually worse than had been reported originally and thus management would have to explain, through the provision of increased disclosures, why this was the case.

Additionally, it has been argued that companies with excessive profits may attract government’s attention. Thus, those companies where the restated profit levels were affected substantially would consider the political costs that may derive from such a change. Accordingly, this might have affected their ‘compliance behaviour’ in 2005.

Therefore, it is hypothesised that companies’ levels of compliance with mandatory disclosures is associated with the impact caused on the restated net income values regarding 2004. On that basis, the following hypothesis is formed:

H4.5 There is a significant association between changes in net income (as a result of the transition to IFRS) and the extent to which companies comply with IFRS mandatory disclosures.

4.5.2.2 *Liquidity*

As discussed above, agency theory predicts that the greater a company's debt, the higher the agency costs should be. Watson et al. (2002) argue that the proportion of a company's debt could also be reflected on liquidity ratio. It is also argued that liquidity can be seen as a measure of a company's risk (Wallace et al., 1994). This would imply that companies with low liquidity ratios would incur higher agency costs. The managers of a company with weak performance regarding working capital management (i.e. proxied by liquidity) will be under more pressure to provide higher levels of information, to justify the company's weak performance and to reduce agency costs. Hence, this would suggest a negative relationship between liquidity and compliance levels with mandatory disclosures.

However, within the framework of signalling theory, a company with strong working capital management, and thus strong liquidity, would be willing to provide higher compliance levels with disclosure requirements to 'screen' its good performance. That would suggest a positive relationship between compliance levels and liquidity (Belkaoui and Kahl, 1978).

Belkaoui and Kahl (1978) report a positive association between liquidity and level of disclosures whilst Wallace et al. (1994), Owusu-Ansah and Yeoh (2005), and Abd-Elsalam and Weetman (2007) find a negative association. Wallace and Naser (1995) and Owusu-Ansah (1998b) find no significant relationship. This is also Vlachos' (2001) finding with regard to Greece.

Considering the mixed findings of the prior literature, the sign of the relationship is not predicted in the present study. Hence, the relevant hypothesis tested is formed as follows:

H4.6 There is a significant association between the extent of companies' compliance with IFRS mandatory disclosures and companies' liquidity.

4.5.3 Market-related variables

The present study employs two market-related variables: audit firm size and industry type. Taking into consideration the data collection process of this study, they are relatively stable over time and more within companies' control, for the sample of companies examined.

4.5.3.1 Audit firm size

As discussed in section 3.4.3, DeAngelo (1981) and Watts and Zimmerman (1986) suggest that large audit firms perform higher quality audits. Having clients with poor quality financial statements jeopardises an auditor's reputation. Thus, audit companies that are larger and more sensitive to the public eye have higher incentives to assure that their clients' financial statements do not breach accounting standards' requirements (DeAngelo, 1981; Fama and Jensen, 1983).

Qualifying an audit report may antagonise the client's management and result in a loss of this client. However, this may not have severe implications for large audit companies as they usually have a large portfolio of clients and thus are more independent. The benefits of a good reputation outweigh the loss of the client. This is consistent with the argument that large and reputable audit companies press their clients for higher levels of disclosure (Firth, 1979; Chalmers and Godfrey, 2004). On that basis, auditing could be perceived as a means of minimising agency costs (Jensen and Meckling, 1976; Watts and Zimmerman, 1983)

Large and international audit companies have greater competence and expertise on IFRS (Dumontier and Raffournier, 1998). This is particularly relevant to the objectives of the present study since this expertise and competence should result in their clients' financial statements to exhibit higher levels of compliance with IFRS. As discussed above, (according to one of the interviewees), 'Big 4' audit companies could indeed attract experienced employees from their foreign operations to assist in the transition process in Greece. Accordingly, companies with 'Big 4' auditors should exhibit higher compliance levels with IFRS mandatory disclosures. (The

findings regarding the instances of non-compliance with IFRS 1, i.e. no provision of reconciliation statements (see previous chapter), and the relationship with audit firm size provide some further support for this proposition.) Additionally, greater audit effort by large audit firms is well documented in Greece. Finally, higher earnings management is well documented in Greece for companies with small auditors (see 3.4.3 for more details). Thus, Greek managers may also intentionally employ a ‘Big 4’ audit firm as a signal of high accounting quality⁶² (which in turn may indeed result in higher compliance with mandatory disclosures).

Several studies (e.g. Tai et al. 1990; Ahmed and Nicholls, 1994; Wallace and Naser, 1995; Patton and Zelenka 1997; Street and Gray, 2001; Glaum and Street, 2003) document that audit firm size has a positive relationship with mandatory disclosures. A few studies (e.g. Wallace et al. 1994; Vlachos, 2001) find no significant association between companies’ compliance with mandatory disclosures and audit firm size. Wallace and Naser (1995) find a negative association.

Considering the above discussion about the relevance of audit firm size in Greece and the results of the previous chapter, the following hypothesis is formed:

H4.7 There is a significant and positive association between the extent of companies’ compliance with IFRS mandatory disclosures and audit firm size.

4.5.3.2 *Industry*

The industry in which a company operates can be employed as a proxy for signalling effects, political costs as well as for ‘*follow the leader*’ effect. With regard to signalling theory, Malone et al. (1993) and Wallace et al. (1994) suggest that it is common for companies in the same industry to follow similar accounting and reporting practices. Thus, when a company deviates from what is considered to be the norm within the industry it can transmit different signals to market participants. Higher compliance levels can be interpreted as companies trying to ‘screen’ themselves from their peers. On the other hand, lower levels of compliance (i.e.

⁶² I am in debt to Martin Walker and Mark Clatworthy for pointing this out.

being silent) can be interpreted as companies being ‘lemons’, resulting in lower market values.

Additionally, differential exposure to political costs may apply for companies being in different industries (cf. Ball and Foster, 1982; Verrecchia, 1983; Watts and Zimmerman, 1986). In fact, Ball and Foster (1982) hold the view that industry type can capture political-cost sensitivity in a more appropriate way than size could do. (Watts and Zimmerman (1990) argue that size is in fact related to industry type.)

Finally, Camfferman and Cooke (2002) argue that in economic environments where few major companies exist, companies in the same industry as ‘leaders’ may try to follow their disclosure practices. Accordingly, industry type can have a more acute effect in those countries compared to countries such as the UK, where the market has greater breadth.

Similar to the other proxies discussed, association between companies’ level of compliance with mandatory disclosures and industry type has not been consistently reported in the prior literature. Cooke (1992), Wallace and Naser (1995), Street and Gray (2001), and Abd-Elsalam and Weetman (2003) find industry is associated with compliance with accounting standards’ requirements. However, Wallace et al. (1994), Patton and Zelenka (1997), Tower et al. (1999) and Owusu-Ansah (1998b) provide no evidence of this association. The present study posits a significant association between companies’ industry type and levels of compliance with mandatory disclosures.

H4.8 There is a significant association between the extent of companies’ compliance with IFRS mandatory disclosures and industry type.

4.6 Data and Research Methods

4.6.1 Data

The seventh objective of this research is to make a contribution regarding the valuation implications of IFRS mandatory disclosures. The analysis conducted with regard to this issue is provided in the next chapter. However, as illustrated in Graph 1, the research findings of this part of the study will also be used in the part that follows. Hence, the companies analysed here should also meet the criteria for being appropriate for inclusion in the next part.

Starting from the 238 companies used in the previous part, 50 companies for which the net profit after tax figure was not available for 2004 had to be eliminated.⁶³ Six more companies which switched auditor from the one year to the other were also excluded.⁶⁴ Additionally, seven companies for which the market value one month after the publication of the 2004 financial statements was not available had to be excluded. These companies were either not listed or were suspended from trading.⁶⁵ This would leave 175 companies. However, as discussed previously, 42 companies did not present adequate reconciliation statements. 20 of those also meet the above ‘exclusion’ criteria. The remaining 22 have to be eliminated since the next part of the study examines the incremental value relevance of the information provided in the reconciliation statements. Hence, the sample of companies used in this as well as the next part of the study is consisted of 153 companies.

4.6.2 The two disclosure index methods employed

The most common approach for determining compliance with disclosure requirements by a company is that of the unweighted disclosure index (e.g. Ali et al., 2004; Craig and Diga, 1998; Patton and Zelenka; 1997; Cooke, 1996; Ahmed and

⁶³ For testing the change in the value relevance of accounting information between 2004 and 2005 (Q4), the book value of equity and the book value of net income are required for both years.

⁶⁴ The partition of ‘Big 4’ versus non-‘Big 4’ is also used in the next part of the study. Thus including the companies changed auditors would add ‘noise’ to the pre-and post IFRS analysis of value relevance as the sample would not be the same in both years.

⁶⁵ The value relevance tests would not be feasible for companies’ not traded.

Nicholls, 1994; Wallace et al., 1994; Spero, 1979). If a required item is disclosed, it is scored as 1 and if it is not, it is scored as 0. This is commonly known as the ‘dichotomous’ method. However, Cooke (1991) suggests that it is not strictly ‘dichotomous’ because some items may not be applicable to every company, and are therefore scored as ‘not applicable’ (NA).⁶⁶ The disclosure index for each company is then calculated as the ratio of the total items disclosed to the maximum possible score applicable for that company:

$$C_j = \frac{T}{M} = \frac{\sum_{i=1}^n d_i}{\sum_{i=1}^m d_i} \quad (\text{Eq. 4.1})$$

Where C_j is the total compliance score for each company and $0 \leq C_j \leq 1$. T is the total number of items disclosed (d_i) by company j where M is the maximum number of applicable disclosure items for company j that could have been disclosed.

The index is described as an unweighted index because each item is treated equally.⁶⁷

It was initially developed for measuring compliance with voluntary (or a combination of voluntary and mandatory) disclosures (cf. Marston and Shrides, 1991). In that case the researcher exercises judgement on what should be included in

⁶⁶ This is why the term ‘Cooke’s method’ is used in this study as a reference to this method. (Aljifri (2008: 95) uses the same name as a reference to this method.

⁶⁷ By contrast, a weighted disclosure index methodology also exists, although it has not been applied for examining compliance with IAS/IFRS requirements. This method attaches a weighting (value) to each disclosure item, e.g. ‘from 1 = of no importance at all to 7 = utmost importance’ (Chow and Wong-Boren, 1987: 535). Companies may not comply with a substantial number of items but, if these items have been given a low weight this is not considered to be an issue of great importance. This method entails a great degree of subjectivity in deciding on the criteria which make an item important. Prior researchers surveyed financial statement user groups, such as financial analysts (Firth, 1979) so as to allocate weights more objectively. However this approach raises further questions with regard to the user groups to include, sampling issues, etc.; additionally, not all users have the same needs (Benjamin et al., 1977). An alternative method of weighting, which aims to measure the quality rather than quantity of disclosures, has been employed by Hodgdon et al. (2008) and Hodgdon (2004). This is the “Saidin” index, which ‘weights each disclosure item by the percentage of firms in the sample that do not comply with the item’ Hodgdon et al. (2008: 6, with reference to Spetz and Baker, 1999). Therefore, less common disclosures receive a greater weighting. Hodgdon et al. (2008) employ this method in parallel to the commonly used dichotomous approach.

the disclosure checklist and accordingly each item should be considered independently.

This method has also been applied by many prior studies in measuring compliance with IAS/IFRS mandatory disclosures (i.e. by Abd-Elsalam and Weetman, 2003; Street and Bryant, 2000; Street and Gray, 2001; Glaum and Street, 2003; and Hodgdon et al., 2008). However, this kind of disclosure index entails an important limitation: the number of disclosure items required by different standards varies considerably. Some standards require a large number of items to be disclosed (e.g. IAS 1) while some others require only a few (e.g. IAS 2). As a result,

‘standards which require more items to be disclosed or, in other words, standards with more items included in the index are unintentionally and indirectly not treated equally with those that require fewer items to be disclosed’ (Al-Shiab, 2003, 222).

An alternative method, avoiding this problem, is the ‘Partial Compliance (PC) unweighted approach’ employed by Street and Gray (2001) and Al-Shiab (2003, 2008). According to this approach,

‘the degree of compliance for each company is measured by adding the degree of compliance for each standard and then dividing this sum by the number of standards applicable to each company. This implicitly gives equal weighting to each applicable standard and avoids the problem of unintentionally giving more weight to a standard with a larger number of items in the index’ (Al-Shiab 2003: 223).

That means, of course, giving unequal weighting to the disclosure items in different standards.⁶⁸

Thus:

$$PC_j = \frac{\sum_{i=1} X_i}{R_j} \quad (\text{Eq. 4.2})$$

⁶⁸ I am grateful to David Alexander for pointing this out.

Where PC_j is the total compliance score for each company and $0 \leq PC_j \leq 1$. X_i is the level of compliance with each standard's mandatory disclosures. This means that, initially, using the 'dichotomous' approach, the researcher calculates the compliance with each standard separately. Subsequently, the sum of these compliance scores (X) is divided by the total number of relevant/applicable standards for each company j i.e. R_j .

The following examples illustrate the computation of the compliance scores in accordance with the two methods. Let us assume that three standards are applicable to company X and that Standard A requires three items to be disclosed, Standard B requires five items to be disclosed and Standard C requires nine items to be disclosed. Company X discloses one item required by Standard A, two items required by Standard B and seven items required by Standard C. The compliance score as calculated by means of the dichotomous approach would be $C_x = (10/17) = 0.59$ i.e. 59%. The score according to the PC unweighted method, on the other hand, would be $PC_x = [(1/3+2/5+7/9)/3] = 0.50$ i.e. 50%. The example illustrates that, with the 'dichotomous' approach, the low compliance with standards A and B is obscured by the high compliance with Standard C and, arguably, the compliance score identified may be misleading (depending on the objective of the study) as it is affected by compliance with only one standard.

On the other hand, let us assume that company X discloses all three items required by Standard A, four out of the five items required by Standard B and three out of the nine items required by Standard C. Under the dichotomous approach the compliance score would again be $C_x = (10/17) = 0.59$, i.e. 59%. However, the score according to the PC unweighted method, would be $PC_x = [(3/3+4/5+3/9)/3] = 0.74$ i.e. 74%. This example illustrates that the PC method measures compliance with the *Standards* under examination.

The study of Street and Gray (2001) is the only identified to have employed the above methods simultaneously. However the researchers employ both methods, without commenting or comparing the respective advantages or disadvantages.

Additionally, whilst their results indicate different compliance scores, the study does not discuss or test the significance of this difference. This is particularly important since their research instrument consists of a range of items which were required by IAS at that time: from potentially 1 item required by IAS 23 to potentially 12 items by IAS 12.⁶⁹ Finally, they find different significant associations under each method between the dependent variable (compliance score) and a number of independent variables.

More specifically, when the dependent variable of compliance score has been calculated by the PC unweighted method they find, *inter alia*, a significant positive association with being domiciled in China and Switzerland and a negative association with the size of the domestic capital market. However, when the dependent variable of compliance score has been measured by Cooke's dichotomous approach, they do not find significant associations with these variables. They find instead a negative association with being domiciled in Germany, France or Other Western Europe. Street and Gray (2001) also use both methods of calculating a compliance index for measurement requirements, and find a similar variation in their results.

Nevertheless, both methods share some limitations. The first is that irrespective of the method employed, the investigator needs to exercise judgement on whether a disclosure requirement is not complied with by, or not applicable to, a specific company. In order to avoid penalising a company for non-compliance with a standard which might not be applicable, a thorough reading of the complete annual report is needed prior to proceeding with examining compliance (Cooke, 1992).⁷⁰ (This approach has been followed in the present study.)

The second is that judgement is needed in deciding how to treat partial compliance with disclosure requirements relating to multiple information elements. For example,

⁶⁹ In a private conversation, Donna Street confirmed that the reason for using both methods in this study was the substantial differences in the items required by the standards examined.

⁷⁰ In addition, Tower et al. (1999) and Taplin et al. (2002) compute two compliance ratios: One that assumes non-disclosure as non-compliance and a second one assuming non-disclosure as non-applicability. A similar (but not identical) approach is followed by Patton and Zelenka (1997).

IAS 1 paragraph 76 (sub-paragraph a) requires, *inter alia*, the following disclosure: ‘for each class of share capital: (i) the number of shares authorised and (ii) the number of shares issued and fully paid, and issued but not fully paid’. The question arises as to whether partial compliance constitutes compliance or non-compliance. Buzby (1975), Inchausti (1997) and Al-Razeen and Karbhari (2004) allocate a proportion of 1 to each component of such multiple disclosure requirements, which ‘is expected to reduce subjectivity of the scoring process and produce a more reliable compliance score’ (Al-Razeen and Karbhari, 2004, 355). However, Inchausti (1997) acknowledges that this procedure also relies on the researcher’s judgement.

The third one is that the PC method may be more sensitive to the researchers’ skills to score complex standards. This problem will be less apparent under the dichotomous approach.

4.6.3 Developing the disclosure checklist: validity and reliability

Irrespective of which of the two methods researchers employ, they have to ensure the content validity and the reliability of their research instrument. Both issues have been considered in the present research.

Initially, a scoring sheet based on the IFRS requirements which specifically deal with mandatory disclosures was constructed.⁷¹ This required judgment in determining what constituted a disclosure item, as the disclosure sections typically also include several paragraphs which explain the required disclosures or encourage, but do not require, specific disclosures. Further, some standards make reference to disclosures required by other standards and accordingly there is the risk of duplication. To address this problem and avoid arbitrariness in allocating identical disclosure requirements to specific standards, it was decided to include items under the standard

⁷¹ The ‘Deloitte Touche Tohmatsu IFRS Presentation and disclosure checklist 2005’ and the corresponding PricewaterhouseCoopers checklist were also consulted in this process. However, neither was adopted because they had been structured according to categories (e.g. disclosures related to the balance sheet).

which mainly dealt with the issue being regulated.⁷² (For example, the specific requirements relating to the presentation of property, plant and equipment were included under IAS 16. However, the corresponding requirements in IAS 1 were not included (paragraphs 74&75)).

Another issue to be considered is that many standards incorporate paragraphs disaggregated across sub-paragraphs into two to four levels. To address this problem, it was decided that disclosures required up to the 1st level of disaggregation should constitute disclosure items. Tables 4.3 and 4.4 provide an example of the disclosures required by IAS 1 paragraph 76 and sub-paragraphs a and b and the corresponding extract from the disclosure scoring sheet employed in this study. Additionally, as is also the case in most prior studies, fractional scores for partial compliance have not been awarded (see above).

Table 4:3: Extract from IAS 1 – Paragraph 76 (sub-paragraphs a&b).

76	An entity shall disclose the following, either on the face of the balance sheet or in the notes: (a) for each class of share capital: (i) the number of shares authorised; (ii) the number of shares issued and fully paid, and issued but not fully paid; (iii) par value per share, or that the shares have no par value; (iv) a reconciliation of the number of shares outstanding at the beginning and at the end of the period; (v) the rights, preferences and restrictions attaching to that class including restrictions on the distribution of dividends and the repayment of capital; (vi) shares in the entity held by the entity or by its subsidiaries or associates; and (vii) shares reserved for issue under options and contracts for the sale of shares, including the terms and amounts; and (b) a description of the nature and purpose of each reserve within equity.
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⁷² There may of course be an element of randomness introduced by the standard setting process or the standard setters' agenda.

Table 4:4: Extract from the disclosure checklist: IAS 1 - Paragraph 76 (sub-paragraphs a&b).

76	An entity shall disclose the following, either on the face of the balance sheet or in the notes:	Score (1, n/a, 0)
	(a) (i) the number of shares authorised; (ii) the number of shares issued and fully paid, and issued but not fully paid; (iii) par value per share, or that the shares have no par value; (iv) a reconciliation of the number of shares outstanding at the beginning and at the end of the period; (v) the rights, preferences and restrictions attaching to that class including restrictions on the distribution of dividends and the repayment of capital; (vi) shares in the entity held by the entity or by its subsidiaries or associates; and(vii) shares reserved for issue under options and contracts for the sale of shares, including the terms and amounts; and	
	(b) a description of the nature and purpose of each reserve within equity.	

On that basis, the researcher constructed an initial scoring sheet which included 509 items required to be disclosed by the standards extant at the end of April 2006 (excluding 6 standards⁷³). The scoring sheet was constructed in a way that would allow for calculation of compliance scores under both methods.

4.6.3.1 Content validity

Content validity indicates whether the instrument ‘adequately measures the concept of interest’ (Vlachos, 2001, 184 with reference to Sekaran, 1992) (i.e., in this case, compliance with disclosure requirements). It is usually established when the items which are supposed to measure the concept are evaluated by a group of expert judges to ensure that they in fact do so (Kidder and Judd, 1986). In this case, the initial disclosure checklist was reviewed independently by the first supervisor and by a

⁷³ These standards represented the IASB’s ‘stable platform’ and were the standards required to be implemented in 2005. The 6 standards excluded are: IAS 26 ‘Accounting and Reporting by Retirement Benefit Plans’; IAS 29 ‘Financial Reporting in Hyperinflationary Economies’; IAS 30 ‘Disclosures in the Financial Statements of Banks and Similar Financial Institutions’; IAS 34 ‘Interim Financial Reporting’; and IFRS 4 ‘Insurance Contracts’. These standards do not apply to the Greek sample companies. IAS 39 ‘Financial Instruments: Recognition and Measurement’ is also excluded as it covers only the recognition and measurement aspects of financial instruments; disclosure and presentation are covered by IAS 32 (which is included in the research instrument).

senior financial accounting and reporting analyst.⁷⁴ A similar approach has also been followed by other researchers (e.g. Camfferman and Cooke, 2002; Al-Shiab, 2003; Vlachos, 2001; and Cooke, 1992). After receiving their comments and suggestions, any remaining ambiguities were discussed with the second supervisor.

After this verification process, the final disclosure checklist included 481 mandatory items, required by 31 standards, as at extant in April 2006. Table 5.5 shows the number of items identified by each researcher, and the final index.⁷⁵ The differences in the number of items initially identified for some standards (IAS 8, 14 and 38) illustrate the need for carrying out this verification process. These differences arose because (i) the same disclosure items required by multiple standards (i.e. duplication), which should have only been included once, and (ii) different judgements relating to the level of disaggregation (see above).

Table 4.5 shows that the number of items required by each standard vary substantially: from 3 (IFRS 6, IAS 23, IAS 20, and IAS 18) to 72 (IAS 1). As discussed above, this is particularly important, for this type of research, when it comes to choosing the methodology which is applied to measure compliance with these items and for this reason this study employs both disclosure index methodologies.

⁷⁴ The first supervisor is Professor of Accounting and a Chartered Accountant. Her area of expertise is financial reporting. The analyst involved has more than 12 years experience in the field. Prior to this he was employed in the banking industry for more than 20 years.

⁷⁵ Appendix II provides the disclosure checklist employed in this study.

Table 4:5: Ensuring the validity of the research instrument: Items identified by each researcher and in the final index.

	Items suggested by the researcher	Items suggested by the supervisor	Items suggested by the analyst	Final index (after 2 nd supervisor's advice)
IAS 1	74	76	72	72
IAS 2	9	8	8	8
IAS 7	10	10	10	10
IAS 8	6	21	8	16
IAS 10	5	4	4	4
IAS 11	9	8	8	8
IAS 12	14	11	11	11
IAS 14	26	25	21	20
IAS 16	17	15	15	15
IAS 17	23	19	19	19
IAS 18	4	3	3	3
IAS 19	23	23	23	23
IAS 20	3	3	3	3
IAS 21	9	8	8	8
IAS 23	3	3	3	3
IAS 24	18	17	17	17
IAS 27	11	11	11	11
IAS 28	13	11	13	13
IAS 31	7	8	8	8
IAS 32	31	31	31	31
IAS 33	8	8	7	7
IAS 36	38	38	39	39
IAS 37	17	15	15	15
IAS 38	18	16	14	14
IAS 40	19	19	20	21
IAS 41	23	23	23	23
IFRS 1	17	14	14	14
IFRS 2	15	12	12	12
IFRS 3	25	20	20	20
IFRS 5	11	10	10	10
IFRS 6	3	3	3	3
Total	509	493	473	481

4.6.3.2 Reliability of the research instrument

Apart from validity, reliability of the research instrument needs to be ensured. Reliability is concerned with the accuracy of measurement, i.e. how well the concept under investigation is being measured (Vlachos, 2001 with reference to Sekaran, 1992), and the precision, stability and consistency of measurement. Stability refers to the ability of the instrument to measure the concept of interest consistently,

independent of timing and conditions. The main threat to reliability derives from the subjective judgment exercised in completing the research instrument (Vlachos, 2001).

To ensure the reliability of the research instrument, the researcher, the first supervisor as well as the senior financial accounting and reporting analyst independently scored 10 companies, as a pilot study. Considering the findings of Street and Gray (2001) as well as the fact that this study examines also compliance with standards which require substantially different number of items to be disclosed, it was decided this pilot study to employ both methods simultaneously and explore whether the two methods do produce significantly different compliance scores.

To test the reliability of the research instrument, it was examined whether there is a statistically significant difference in the scores computed between the three researchers. This was done by employing the ‘Kruskall-Wallis H test’. Given that the final research instrument had been agreed by all investigators, differences in the compliance scores across the investigators were not expected to be significant.

To examine whether the two scoring methods produce significantly different compliance scores, the ‘Wilcoxon Signed Rank Test’ (also known as the ‘Wilcoxon Matched Pairs Test’) was used. The Wilcoxon Test ranks the differences of repeated measurements on the same sample and then tests the significance of these differences. Therefore, it effectively tests the significance in the different ranking score order of the companies under examination. Identifying statistically significant compliance across the two methods (i.e. different ranking order) would indicate the need for using both methods simultaneously in the overall study.

Table 4.6 shows the compliance scores calculated under both measures by all three investigators individually. Based on the Kruskal-Wallis Test and irrespective of the method used, the compliance scores across the three investigators are not significantly different. It was therefore concluded that content validity of the research instrument was ensured and the research instrument was reliable.

Table 4:6: Testing the reliability of the research instrument and comparing the compliance scores under both methods.

Company	Researcher				Supervisor				Financial reporting analyst			
	PC ¹		Dichotomous ²		PC ¹		Dichotomous ²		PC ¹		Dichotomous ²	
	Score	Ranking	Ranking	Score	Score	Ranking	Ranking	Score	Score	Ranking	Ranking	Score
A	0.66	6	5	0.75	0.66	6	5	0.78	0.62	6	4	0.71
B	0.82	1	1	0.84	0.84	1	1	0.86	0.79	1	1	0.80
C	0.57	9	8	0.68	0.61	8	9	0.67	0.51	9	7	0.62
D	0.60	8	9	0.66	0.60	9	8	0.68	0.52	8	8	0.58
E	0.71	5	7	0.71	0.69	5	7	0.71	0.66	5	6	0.63
F	0.76	2	2	0.82	0.77	2	2	0.84	0.74	2	1	0.80
G	0.73	3	4	0.78	0.74	3	4	0.79	0.72	3	2	0.74
H	0.51	10	10	0.62	0.51	10	10	0.63	0.49	10	9	0.57
I	0.72	4	3	0.79	0.73	4	3	0.80	0.68	4	3	0.72
J	0.64	7	6	0.72	0.65	7	6	0.74	0.58	7	5	0.66
Median	0.69			0.74	0.68			0.76	0.64			0.69
Mean	0.67			0.74	0.68			0.75	0.63			0.68
Wilcoxon signed rank test [†]	Z: -2.670***				Z: -2.809***				Z: -2.501**			
PC ¹ Kruskal Wallis Test	Chi-Square: 1.091											
Dichotomous ² Kruskal Wallis Test	Chi-Square: 3.167											

¹Compliance scores calculated with the 'Partial Compliance' unweighted approach, ²Compliance scores calculated with the commonly used 'dichotomous' approach. [†]Two tailed tests. **Significant at 5%, ***Significant at 1%.

However, the financial accounting and reporting analyst took a more conservative approach when scoring compared to the other two members, more frequently assuming non-compliance with a requirement rather than non-applicability. Additionally, the same investigator, in some cases and in contrast to the other two researchers, tended to give a non-compliance score when a part of a multiple/complex requirement was missing. Had the three investigators followed the approach applied by Inchausti (1997) and Al-Razeen and Karbhari (2004) in the design of the research instrument (i.e. allowing for partial compliance with multiple/complex requirements) the scores are likely to have been even closer. However, the fact that the results are not significantly different illustrates that this approach would not have changed the findings substantially.

The Wilcoxon Signed Rank Test illustrates that the two methods under comparison produce significantly different compliance scores. More specifically, the ‘dichotomous’ approach produces consistently higher compliance scores than the PC unweighted approach when applied to the data. Accordingly, Cooke’s dichotomous approach produces significantly different compliance scores from the PC method. It is also shown that the relative scores (i.e. companies’ ranking order) differ under the two methods.

Considering the variability in the items required by the standards included in the disclosure checklist, the significance of the disclosures mandated by IAS 1 with regard to these findings was examined as a potentially indicative example. In contrast to the majority of standards, IAS 1 deals more with presentation issues rather than technical accounting issues. However, it requires the largest number of items to be disclosed and subsequently affects significantly the number of items included in the research instrument. The alternative findings (i.e. having excluded IAS 1) are presented in Table 4.7 below.

Table 4:7: Testing the reliability of the research instrument and comparing the compliance scores under both methods, excluding IAS 1.

Company	Researcher				Supervisor				Financial reporting analyst			
	PC ¹		Dichotomous ²		PC ¹		Dichotomous ²		PC ¹		Dichotomous ²	
	Score	Ranking	Ranking	Score	Score	Ranking	Ranking	Score	Score	Ranking	Ranking	Score
A	0.65	6	5	0.66	0.64	6	4	0.69	0.61	6	4	0.63
B	0.82	1	1	0.80	0.83	1	1	0.81	0.79	1	2	0.75
C	0.55	9	8	0.55	0.59	7	9	0.51	0.49	9	7	0.45
D	0.58	8	9	0.53	0.58	8	8	0.53	0.51	8	7	0.45
E	0.70	5	6	0.62	0.68	5	7	0.62	0.65	5	6	0.54
F	0.76	2	2	0.79	0.76	2	2	0.79	0.73	2	1	0.76
G	0.72	3	4	0.68	0.72	3	5	0.68	0.71	3	3	0.65
H	0.49	10	10	0.46	0.49	9	10	0.46	0.47	10	8	0.43
I	0.71	4	3	0.70	0.71	4	3	0.70	0.67	4	3	0.65
J	0.62	7	7	0.61	0.64	6	6	0.64	0.57	7	5	0.55
Median	0.68			0.64	0.66			0.66	0.63			0.59
Mean	0.66			0.64	0.66			0.64	0.62			0.59
Wilcoxon signed rank test [†]	Z: -1.785*				Z: -1.483				Z: -2.204**			
PC ¹ Kruskal Wallis Test	Chi-Square: 0.905											
Dichotomous ² Kruskal Wallis Test	Chi-Square: 1.583											

¹Compliance scores calculated with the 'Partial Compliance' unweighted approach, ²Compliance scores calculated with the commonly used 'dichotomous' approach. [†]Two tailed tests. *Significant at 10% and **Significant at 5%.

Table 4.7 shows that: a) the compliance scores under the dichotomous approach are approximately 10% lower after excluding the requirements of IAS 1 (This finding is significant at the 1% level across all three investigators.); b) the compliance scores under the PC method are also lower but only by approximately 1%. (Likewise, this finding is also significant at 1% level across all three investigators). These results indicate the significance of one standard for the compliance scores identified under the dichotomous approach and how, depending on the research objectives, this may provide a misleading perception about companies' compliance.

The significantly lower compliance score under the dichotomous approach, after having excluded IAS 1, affects the significance of the difference of the scores across the two methods.⁷⁶ However, the relative compliance score (i.e. companies' ranking order) continues to differ under the two methods, but less significantly.

Following this pilot study, the reliability of the research instrument was confirmed and it was decided that both methods should be employed for the purposes of this study. Considering the perplexing finds of Street and Gray (2001) it was decided that only the explanatory factors that appear to be significant under both methods are considered to be as valid and robust findings. Finally, it is noted that only 4 of the companies used in the pilot study are included in the full sample, so no bias is assumed in the overall results of the study.

4.6.4 Measurement of variables

As indicated in the development of the testable hypotheses (4.5), specific corporate characteristics will be tested as explanatory factors of the compliance with IFRS mandatory disclosures. There is a wide variation among prior studies on the surrogates selected for corporate characteristics that may be related to compliance

⁷⁶ More specifically, with regard to the researcher, the two methods continue to produce significantly different compliance scores but at 10% and not 1% as was the case previously. For the supervisor, the two methods do not continue to produce significantly different results, and for the financial reporting analyst the findings do not change.

with companies' disclosures.⁷⁷ This variation mainly depends on the data being available and may be also a reason for the mixed findings in the prior literature regarding the corporate characteristics related to companies' levels of compliance with mandatory disclosures. This section, illustrates, first, what measures have been used in prior studies with reference to the three groups of variables under consideration in this study. Then, the surrogates employed in this study and the corresponding descriptive statistics of those measures are presented.

4.6.4.1 Structure-related variables

As indicated above, the structure-related variables chosen for the purposes of this study are size and gearing as well as the impact on 2004 shareholders' equity arising from implementation of IFRS. Table 4.8 illustrates the various measures employed in prior studies as surrogates regarding structure-related corporate characteristics.

Table 4:8: Structure-related variables tested in mandatory disclosure studies.

*Measures of Size	Study	*Measures of Gearing	Study
<i>Total assets</i>	Al-Shammari et al., 2008; Abd-Elsalam and Weetman, 2007; Hassan et al., 2006; Owusu-Ansah and Yeoh, 2005; Ali et al., 2004; Al-Shiab, 2003; Abd-Elsalam and Weetman, 2003; Taplin et al., 2002; Vlachos, 2001; Street and Gray, 2001; Street and Bryant, 2000; Tower et al., 1999; Owusu-Ansah, 1998b; Craig and Diga, 1998; Patton and Zelenka, 1997; Wallace and Naser, 1995; Wallace et al., 1994; Ahmed and Nicholls, 1994.	<i>Long term debt to equity</i>	Abd-Elsalam and Weetman, 2003; Taplin et al., 2002; Tower et al., 1999; Wallace and Naser, 1995; Wallace et al., 1994.
<i>Total sales</i>	Peng et al., 2008; Abd-Elsalam and Weetman, 2007; Hassan et al., 2006; Akhtaruddin, 2005; Street and Gray, 2001; Vlachos, 2001; Craig and Diga, 1998; Wallace and Naser, 1995; Ahmed and Nicholls, 1994.	<i>Total debt to (Market Capitalisation + Book Value of total debt)</i>	Al-Shiab, 2003.

⁷⁷ It is acknowledged that there is vast literature regarding the corporate characteristics related to companies' voluntary levels of disclosures. However, the references here focus on studies examining the explanatory factors of compliance with mandatory disclosures as they are more relevant to the purposes of the present study.

<i>Market capitalisation and Total debt</i>	Glaum and Street, 2003.	<i>Total debt to total tangible assets</i>	Ali et al., 2004.
<i>Market capitalisation</i>	Street and Gray, 2001; Vlachos, 2001; Owusu-Ansah, 1998b; Wallace and Naser, 1995.	<i>Long term debt to Capital employed</i>	Abd-Elsalam and Weetman, 2007.
<i>Capital employed</i>	Akhtaruddin, 2005.	<i>Total liabilities to equity</i>	Craig and Diga, 1998; Patton and Zelenka, 1997.
<i>Shareholders' equity</i>	Tai et al., 1990.	<i>Total debt to total assets</i>	Hassan et al., 2006.
		<i>Total debt</i>	Ahmed and Nicholls, 1994.
		<i>Total debt to equity</i>	Al-Shammari et al., 2008.

*In the majority of cases, the original variables shown are transformed by using several alternatives (e.g. natural logarithms, percentile ranks or normal scores) for bringing them closer to a normal distribution.

With reference to size, Cooke (1989) argues that although total assets, sales and number of shareholders are important variables, there is no theoretical underpinning as to why one should select one variable rather than another. Drawing on the above table, it becomes apparent that many studies use two or more measures as a size surrogate (e.g. Street and Gray, 2001; Akhtaruddin, 2005; Vlachos, 2001). However, it is common that, when multivariate analyses are conducted these variables tend to be highly correlated and thus only one is tested (cf. Street and Gray, 2001). Like Street and Gray (2001), Vlachos (2001), Owusu-Ansah (1998b) and Wallace and Naser, (1995), the present study employs companies' market value as a measure for size in order to test H4.1.⁷⁸

As far as gearing is concerned, like Hassan et al. (2006), the ratio of total debt to total assets has been employed in this study in order to test H4.2. This selection serves the following two purposes. Had the alternative of using total debt to total shareholders' equity been employed, three companies reported net liabilities and consequently negative gearing would have been excluded from the analyses. Additionally, this alternative would also cause high multicollinearity between gearing and impact on 2004 shareholders' equity which is the third structure-related

⁷⁸ It is acknowledged that this surrogate has the limitation of being sensitive to periodic share prices fluctuations (cf. Vlachos, 2001).

variable tested in this study.⁷⁹ The latter is measured by using Gray's comparability index as a surrogate for testing H4.3. (Gray's comparability index is also a ratio and thus any scale effects are eliminated.)

Table 4.9 provides the descriptive statistics regarding the three structure-related variables. The Kolmogorov-Smirnov tests indicate that only gearing is normally distributed.

Table 4:9: Descriptive statistics of the structure-related variables employed.

Statistics	*Market capitalisation	Gearing	‡EquCoI
Mean	274	0.29	1.11
SD	934	0.17	0.74
Min.	2	0	0.35
Max.	10,016	0.68	8.86
Median	46	0.29	0.99
Skewness	8.191	-0.025	8.180
Kurtosis	79,584	-0.589	84.465
Kolmogorov- Smirnov (Sig)	0.000	0.200*	0.000
Normality rejected	Yes	No	Yes

*€ millions. €1=US\$1.2597 and €1=£0.6930 (28/4/06-FT). ‡It is noted that a value larger than 1.0 implies that the measure examined (i.e. shareholders' equity) is higher under Greek GAAP than under IFRS. This indicates a negative impact as a result of the adoption of IFRS. Similarly, a value lower than 1.0 implies that the measure examined is lower under Greek GAAP than under IFRS, implying a positive impact.

4.6.4.2 Performance-related variables

Profitability is a fundamental measure of a company's performance and is concerned with the financial inputs compared to the financial outputs. Depending on the objective of the analysis carried out at each particular point of time, profitability can be measured and expressed in several ways. The three most common approaches are: return on capital employed, expressed as profit before tax to shareholders' equity plus long-term debt; net profit margin, expressed as net profit to net sales; and return on assets, expressed as profit before (or after tax) to total assets.

⁷⁹ The use of this alternative was explored and high multicollinearity was reported.

Table 4.10 reports the different surrogates that have been employed in prior literature for performance related variables. It is interesting to note that although liquidity has been heavily tested in the voluntary literature (cf. Leventis, 2001) it has not been explored so often in the literature examining compliance with mandatory disclosures.

Table 4:10: Performance-related variables tested in mandatory disclosure studies.

*Measures of Profitability	Study	*Measures of Liquidity	Study
<i>Net profit to total assets</i>	Taplin et al., 2002; Tower et al., 1999.	<i>Quick ratio</i>	Abd-Elsalam and Weetman, 2007; Owusu-Ansah and Yeoh, 2005; Owusu-Ansah, 1998b.
<i>Net profit to equity</i>	Peng et al., 2008; Hassan et al., 2006; Patton and Zelenka, 1997.	<i>Liquidity</i>	Vlachos, 2001; Wallace and Naser, 1995; Wallace et al., 1994.
<i>Net operating profit to total assets</i>	Ali et al., 2004.		
<i>Pre-tax profit to Equity</i>	Abd-Elsalam and Weetman, 2003; Glaum and Street, 2003; Vlachos, 2001; Street and Gray, 2001; Street and Bryant, 2000; Wallace and Naser, 1995; Wallace et al., 1994.		
<i>Pre-tax profit to Sales</i>	Vlachos, 2001; Owusu-Ansah, 1998b; Wallace and Naser, 1995; Wallace et al., 1994.		
<i>Return on investment (Net operating profit after tax to capital employed)</i>	Al-Shiab, 2003.		
<i>Net profit on capital employed</i>	Owusu-Ansah and Yeoh, 2005; Akhtaruddin, 2005; Owusu-Ansah, 1998b;		
<i>Net profit on sales</i>	Akhtaruddin, 2005.		

*In the majority of cases, the original variables shown are transformed by using several alternatives (e.g. natural logarithms, percentile ranks or normal scores) for bringing them closer to a normal distribution.

The present study, like Vlachos (2001), Owusu-Ansah (1998b) and Wallace and Naser, (1995), employs pre-tax profit to net sales as a surrogate for profitability in order to test H4.4.⁸⁰ The difference between 2004 net income under Greek GAAP

⁸⁰ Pre-tax profit to total assets has also been tested with no difference in findings in both the univariate and multivariate analyses.

and the corresponding figure, as restated under IFRS, measured by using Gray's comparability index is used as a surrogate for testing H4.5. Current assets to current liabilities are employed as a surrogate for liquidity in order to test H4.6.

Table 4:11: Descriptive statistics of the performance-related variables employed.

Statistics	ROS	[‡] EarCoI	Liquidity
Mean	0.04	1.29	2.13
SD	0.17	3.81	5.17
Min.	-0.97	-20.60	0.15
Max.	0.66	32.05	61.43
Median	0.05	0.96	1.40
Skewness	-2.228	3.629	10.416
Kurtosis	12.975	42.103	116.883
Kolmogorov-Smirnov (Sig)	0.000	0.000	0.000
Normality rejected	Yes	Yes	Yes

[‡]It is noted that a value larger than 1.0 implies that the measure examined (i.e. net income) is higher under Greek GAAP than under IFRS. This indicates a negative impact as a result of the adoption of IFRS. Similarly, a value lower than 1.0 implies that the measure examined is lower under Greek GAAP than under IFRS, implying a positive impact.

Like the two of the three structure-related variables above, the Kolmogorov-Smirnov tests indicate that none of these variables is also normally distributed.

4.6.4.3 Market-related variables

The first market related variable employed in this study relates to audit firm size. Considering the previous discussion regarding the influence of the type of auditor in Greece, a dichotomous variable where 1 represents the companies having a 'Big 4' auditor and 0 all other companies is employed for testing H4.7. Beyond being of particular relevance for the purposes of the present study, this categorisation is also consistent with the majority of the prior studies.

The second market related variable refers to the industry categorisation. Drawing on Table 4.12 it becomes apparent that there is no consistent way of classifying companies across industry grouping in the relevant literature. The present research follows Abd-Elsalam and Weetman (2003), Street and Bryant (2000) and Wallace et

al. (1994) who differentiate companies across manufacturing and non-manufacturing to test H4.8. Accordingly, a dichotomous variable where 1 represents manufacturing companies and 0 represents all other companies.

Table 4:12: Industry categorisation in mandatory disclosure studies.

Industry classifications	Study
<i>1) Resources 2) Manufacturing 3) Financial 4) Services</i>	Taplin et al., 2002; Tower et al., 1999
<i>1) Manufacturing or financials 2) Other</i>	Patton and Zelenka, 1997
<i>1) Manufacturing 2) Services</i>	Abd-Elsalam and Weetman, 2003; Street and Bryant, 2000; Wallace et al., 1994
<i>1) Machinery and metal industry 2) Mining and building equipment 3) Textiles 4) Chemical 5) Food and other services</i>	Al-Shiab, 2003
<i>1) Finance 2) Utilities 3) Property 4) Consolidated enterprises 5) Industrials 6) Hotels</i>	Tai et al., 1990
<i>1) Manufacturing1 2) Manufacturing2 3) Transportation and Commerce 4) Wholesale 5) Services 6) Other</i>	Street and Gray, 2001
<i>1) Diversified holding 2) Natural resources 3) Banks and financial institutions 4) Manufacturing 5) Real estate and property development 6) Utilities 7) Other services</i>	Craig and Diga, 1998
<i>1) Conglomerates 2) Manufacturing 3) Others</i>	Vlachos, 2001
<i>1) Conglomerates 2) Others</i>	Wallace and Naser, 1995
<i>1) Financial 2) Others</i>	Al-Shammari et al., 2008
<i>1) Conglomerate 2) Manufacturing 3) Agriculture 4) Others</i>	Owusu-Ansah and Yeoh, 2005

Table 4.13 summarises the information with regard to the surrogates for corporate characteristics employed in this study and the expected signs of their relationships with companies' compliance levels with IFRS mandatory disclosures.

Table 4:13: Summary of the determinants of compliance with IFRS mandatory disclosures.

Variable	Measurement	Expected Sign
<i>Structure-related</i>		
Size	Market value	+ -
Gearing	Total debt to total assets	+ -
Change in the 2004 shareholders' equity figure as a result of the adoption of IFRS,	Gray's comparability index with regard to 2004 shareholders' equity (EquCoI)	+ -
<i>Performance-related</i>		
Profitability	Pre-tax profit to net sales (ROS)	+ -
Change in the 2004 net profit figure as a result of the adoption of IFRS	Gray's comparability index with regard to 2004 net profit (EarCoI)	+ -
Liquidity	Current assets to current liabilities	+ -
<i>Market-related</i>		
Audit firm size	Dummy variable: 1 if the audit firm is a 'Big 4', 0 otherwise	+
Industry	Dummy variable: 1 if a company is manufacturing, 0 otherwise	+ -

4.6.5 Univariate analyses

Answering research question three (Q3) implies that the correlation of the compliance scores and the corporate characteristics selected as proxies for the factors explaining compliance with mandatory disclosures will be statistically tested. This examination can be performed by conducting univariate and multivariate analyses.

The above descriptive statistics reveal that the continuous independent variables under examination are not normally distributed (the exception being gearing). This is normal in relatively large samples (Pallant, 2005) and suggests that the relationship between compliance scores and potential explanatory factors should be examined with a non-parametric test (e.g. Kendall rank correlation coefficient (tau)) (cf. Leventis, 2001), in a univariate analysis setting. However, non-parametric tests are not powerful as the parametric ones. 'They may not detect differences or relationships [between variables] even when they actually exist' (Pallant, 2005: 82).

As an alternative, a ‘transformation’ of the variables can be undertaken in order that they can be brought closer to normality (cf. Maddala, 2002; Fielding and Gilbert, 2004; Pallant, 2005; Hassan et al., 2006). As indicated above, this is normal practice in the relevant literature and allows the use of parametric tests which are more powerful. On that basis, the square root of the independent variables is utilised in this study as a transformation method for the independent variables that are not normally distributed (cf. Pallant, 2005; Fielding and Gilbert, 2004).⁸¹ Hence, the parametric test ‘Pearson correlation coefficient’ is employed as a univariate test for examining the relationship between compliance scores and the potential explanatory factors.

However, univariate analyses are simplistic since they do not take into consideration the simultaneous impact of other factors that may explain compliance (Owusu-Ansah and Yeoh, 2005; Vlachos, 2001). As Fielding and Gilbert (2004: 168) explain, correlation ‘is simply a measure of association that tells us whether two variables vary together’. Instead, if one is interested to ‘explain’ the behaviour of one variable, the dependent variable, using the predictive power of two or more independent variables (as is the case here), multiple regression analyses should be employed (Fielding and Gilbert, 2004). Accordingly, multivariate analyses are considered necessary for the purposes of the present study and consequently more weight is given on their findings.⁸²

⁸¹ Irrespective of the transformation of the independent variables, considering that the analyses carried out are based on a sample of 153 observations, parametric tests are considered to be more relevant. This argument is based on premises of the Central Limit Theorem which assumes normal distribution of the observations within a relatively large sample. More specifically, Fielding and Gilbert (2004: 231) explain that by the ‘fundamental theorem of statistics, called the central limit theorem, it can be proved that the distribution of sample means always approximates to the bell-shaped normal distribution, provided that it is based on a sufficient number of samples each large enough in size’. A sample having more than 100 observations is suggested as large enough (ibid: 232).

⁸² In fact, it is common only multivariate analyses to be used in the disclosures literature (e.g. Leventis and Weetman, 2004a&b; Ali et al., 2004; Abd-Elsalam and Weetman, 2007).

4.6.6 Multivariate analyses

4.6.6.1 Transformation of the dependent variable

Ordinary Least Squares (OLS) is the most commonly used technique in disclosure studies (Leventis, 2001) where the dependent variable is the compliance/disclosure score and the independent variables include the factors discussed above. However, using a ratio in a regression model may result in the model producing prediction of probabilities greater than one (Al-Shiab, 2003). This problem may arise because the dependent variable is bounded (i.e. lies between 1 and 0) (Cooke, 1998). Additionally, the compliance score may not be normally distributed and thus the major assumption of the classical OLS regression, i.e. that the dependent variable is normally distributed, is violated.

To mitigate this problem, it is common, researchers to employ transformations of the dependent variables in disclosure studies. This is in line with Cooke (1998: 211) who explains that in these types of studies ‘the dependent variable is a metric ratio and therefore can be legitimately transformed, where necessary, and used in regression analysis’.

These transformations include regressions based on: the log odds ratio of the dependent variable (e.g. Ahmed and Nicholls, 1994; Inchausti, 1997); on ranks/percentile ranks (e.g. Abd-Elsalam and Weetman, 2003; Leventis and Weetman, 2004a; Lang and Lundholm, 1996); and on normal scores (e.g. Haniffa and Cooke, 2002; Leventis and Weetman, 2004a; Ghazali and Weetman, 2006). Other methods of transformation include using the natural logarithm of the dependent variable (i.e. a log-lin model, as employed by Hodgdon et al. (2009) and Lopes and Rodrigues (2007)) and rank regressions where only the dependent variable is transformed to percentiles ranks (as employed by Botosan (1997) and Cheng and Courtenay (2006)).

Cooke (1998) compares and contrasts some of these methods by employing them in two case studies so as to explore the implications for research in disclosure studies.

For one case study the log of the odds ratio of the dependent variable provided the best fit, whereas for the second case study the rank data provided the best fit. Thus he concludes that the ‘success’ of each method depends on the structure of the data (ibid: 223) and that ‘no one procedure is best but that multiple approaches are helpful to ensure the results are robust across methods’ (Cooke, 1998: 209).

Following this proposition, the present research employs two regressions to control for problems that may rise because of the data structure. It follows prior studies which have transformed the dependent variable to percentiles ranks (e.g. Botosan, 1997; Cheng and Courtenay, 2006)⁸³ and also those that have employed the log of the odds ratio (e.g. Al-Shammari et al. 2008; Makhija and Patton, 2004; Al-Shiab, 2003; Inchausti, 1997; Ahmed and Nicholls, 1994).⁸⁴

The log of the odds ratio is computed as follows:

$$Y = \log \left(\frac{p}{1-p} \right) \quad (\text{Eq. 4.3})$$

where Y = the transformed level of compliance and p = the ratio of companies’ compliance computed with the disclosure methods explained above. These two techniques are applied with regard to both methods for measuring compliance employed here (i.e. the PC method and Cooke’s dichotomous approach). It is acknowledged that although this transformation surpasses the problem of having a

⁸³ This is not a non-parametric percentile ranks regression (e.g. Abd-Elsalam and Weetman, 2003; Leventis and Weetman, 2004a; Lang and Lundholm, 1996). (The independent variables have not been transformed into to ranks. As discussed above, their transformation is based on their square root. This avoids the use of non-parametric regression which produces less powerful results (cf. Leventis, 2001)). Only each company’s compliance score is transformed into percentile ranks. This transformation of the dependent variable effectively measures the relative levels of disclosure of the companies within the sample (Cheng and Courtenay, 2006). It also allows for the comparison of the results with those of the OLS regression using the log of the odds ratio as a dependent variable.

⁸⁴ Two more types of OLS regressions have also been conducted: one with using the actual (untransformed) compliance score as the dependent variable (e.g. Mangena and Tauringana, 2007; Alsaeed, 2006; Akhtaruddin, 2005; Owusu-Ansah and Yeoh, 2005; Ali et al., 2004; Glaum and Street, 2003; Tower et al., 1999); and one which uses the natural logarithm of the compliance score as the dependent variable (i.e. a log-lin model, cf. Hodgdon et al. (2009) and Lopes and Rodrigues (2007)). The results are similar to those identified by the two main techniques presented herein so their presentation is suppressed for reasons of economy.

bounded dependent variable it is not always able to correct for kurtosis and skewness (Cooke, 1998).

Percentile ranks are computed in the following way:

$$(\text{Rank}-1) / (\text{Sample size} - 1) \quad (\text{Eq. 4.4})$$

This yields the percentile of a firm's rank within the sample where percentiles range from 0 (for the lowest ranking firm) to 1 (for the highest-ranking firm). In line with Botosan and Plumlee (2002), companies are ranked in ascending order, so that companies with higher level of compliance receive higher rank. Rank transformations have the advantage to be distribution free (McCabe, 1989) and they correct for kurtosis and skewness; they 'are also relatively insensitive to outliers'. (Cooke, 1998: 212). On that basis, the following OLS regression model is employed:

$$CS_j = a_0 + a_1SIZE_j + a_2GEA_j + a_3EQUCOI_j + a_4ROS_j + a_5EARCOI_j + a_6LIQ_j + a_7AUD_j + a_8IND_j + \varepsilon_j$$

$$(\text{Eq. 4.5})$$

where CS_j is the transformed compliance score, measured either with the PC method or Cooke's method; $SIZE_j$ is the square root of market value; GEA_j is the square root of total debt to total assets in 2005; $EQUCOI_j$ is the square root of the difference between shareholders' equity in 2004 under Greek GAAP and the restated figure under IFRS, measured by Gray's comparability index; ROS_j is the square root of pre-tax profit on sales in 2005; $EARCOI_j$ is the square root of the difference between net income in 2004, under Greek GAAP, and the restated figure under IFRS, measured by Gray's comparability index; LIQ_j is the square root of current assets to current liabilities in 2005; AUD_j is a dummy variable where 1 represents companies with a 'Big 4' auditor and 0 otherwise and IND_j is a dummy variable where 1 represents manufacturing companies and 0 otherwise; and ε_j is the mean zero disturbance term.

4.6.6.2 *Interpreting the results of the multivariate analyses*

The coefficient determination (commonly known as R^2) is the most commonly used measure of the goodness of fit of a regression line (Gujarati, 2003: 84). More specifically, it is the *adjusted* R^2 that is commonly reported because it is adjusted for the ‘degrees of freedom (df)’ of the model (Gujarati, 2003: 218). However, Cooke (1998: 215) argues that ‘perhaps R^2 is not the ideal measure of best fit for judging differences in right-hand-side variables because it is not invariant to changes in parameterizations of left-hand side variables.’ Thus, he suggests that in the case of dealing with transformed dependent variables, as is the case here, it is preferable for the mean square error (MSE) to be minimised.

Consistent with Cooke (1998), Abd-Elsalam and Weetman (2003) and Leventis and Weetman (2004a) perceive the minimisation of the MSE as the best criterion for selecting a model in disclosure studies.⁸⁵

In line with these studies, herein, the interpretation of the findings of the multivariate analyses is primarily based on the significance of the independent variables as these are reported in the regression with the lowest MSE. Thus, when the MSE of a regression is substantially higher than the others, such a regression is not considered providing a good fit for the data.

However, Cooke (1998: 215) argues that ‘in most disclosure studies prediction is not the purpose of the study, but rather an explanation of the variability of the disclosure scores is sought’. As mentioned above, multivariate analysis allows for an examination of the relationship between the dependent variable (transformed compliance score in this case) and ‘each of the corporate characteristics (independent variables), while simultaneously controlling for the effects of other independent variables in the model’ (Vlachos, 2001: 190). Thus, the best fit for the data may not be of a major concern (Al-Shiab, 2003).

⁸⁵ For value relevance research the R^2 is the crucial measure. Thus, the next chapter focuses on the adjusted R^2 of the regressions performed and, consistent with prior literature, specific tests measuring differences in the R^2 and adjusted R^2 are applied.

4.6.7 Econometric considerations

One of the main assumptions of the classical linear regression model is that there is no multicollinearity among the independent variables. A degree of collinearity is normal within independent variables used in a regression model. However, when high collinearity exists the regression coefficients possess large standard errors resulting in their inaccurate estimation. Gujarati (2003, paragraph 10.7) discusses the ways that multicollinearity can be detected. The two most commonly used ways in prior studies are: the inspection of a matrix of bivariate correlations and the Variance Inflation Factor (VIF).

The first test indicates the correlations among all the independent variables and is performed by conducting the 'Pearson correlation coefficient' in the present study. The second (VIF) shows how the variance of an estimator is inflated by the presence of multicollinearity and is estimated as follows: $VIF = 1/(1-R^2)$. The R^2 in this case is the determination coefficient when one regresses each independent variable on all other variables.

There appears to be a unanimous agreement in the econometrics literature regarding the cut off point of VIF. As a rule of thumb, if the VIF of a variable exceeds 10 ($VIF > 10$) it is considered to be highly collinear (Gujarati, 2003: 262). However, there is a debate regarding the determination of the cut off point in bivariate correlations (Pallant, 2005). Gujarati (2003: 359) suggests that an r higher than 0.8 ($r > 0.8$) indicates serious multicollinearity. Leventis (2001) adopts a stricter approach with the acceptable cut-off value being $r \leq 0.7$. This measure is also applied in the present research. Overall, it has to be noted that this test has been criticised because a) high bivariate correlations may be a sufficient but not a necessary condition for the existence of multicollinearity. Thus multicollinearity may exist even if r is lower than 0.5 (Gujarati, 2003).

A further important assumption of the classical linear regression is that the variance of the random error term (u) is assumed to be constant. This is commonly known as the assumption of homoscedasticity. However, it is possible for the variance to

increase as the independent variable(s) increase. This means that there is heteroscedasticity. Gujarati (2003: 399) argues that ‘if we persist in using the usual testing procedures despite heteroscedasticity, whatever conclusions we draw or inferences we make may be very misleading’.

In order to address the concerns relating to heteroskedasticity, the present study employs ‘Heteroskedasticity-consistent covariance matrix estimator 3 (HC3)’. This alternative method tends to produce better results than White’s (1980) basic method because it produces confidence intervals which tend to be even more conservative (MacKinnon and White, 1985).

Heteroscedasticity can arise as a result of the presence of outliers (Gujarati, 2003: 390). This issue is also considered in the present study and outliers are defined and excluded by using Cook’s Distance as a measure (Fielding and Gilbert, 2004; Pallant, 2005).

4.7 Results and Discussion

4.7.1 Introduction

This section (4.7) provides the analyses and discussion regarding the second and third research questions (Q2 and Q3) of this thesis. On that basis, the findings regarding the extent which Greek companies complied with IFRS mandatory disclosures during 2005 are provided herein. Additionally, analyses exploring the factors that explain the levels of compliance identified are also provided herein.

It is highlighted that, although no specific research question has been set for examination, one of the main objectives of this study is to contribute to the literature regarding the methods used for measuring compliance with IFRS mandatory disclosures. Thus, this section draws also on the implications of the two methods employed in this study.

Section 4.7.2 provides descriptive analyses regarding companies' level of compliance (Q2). Section 4.7.3 provides descriptive analyses regarding companies' level of compliance with each standard separately. Section 4.7.4 presents descriptive information regarding companies' levels of compliance across different categories, based on the surrogates selected as determinants for companies' levels of disclosures. Sections 4.7.5 and 4.7.6 report the results of the univariate and multivariate analyses respectively, exploring the explanatory factors of compliance (Q3). All these sections provide evidence regarding the implications arising from the use of different methods for measuring compliance (the exception being 4.7.3). Additionally, the findings are discussed along with those of prior studies and the Greek setting.

4.7.2 Extent of Greek companies' compliance with IFRS mandatory disclosures

4.7.2.1 Main findings

The findings regarding the extent to which Greek companies complied with IFRS mandatory disclosures in 2005 are presented in Table 4.14. Additionally, the compliance scores under both the PC method and Cooke's approach are shown separately.

Table 4:14: Frequency and distribution of compliance scores (N=153).

Compliance Score	PC method		Cooke's method	
50 - 59	6	3.9%	0	0.0%
60 - 69	18	11.8%	8	5.3%
70 - 79	56	36.6%	42	28.0%
80 - 89	46	30.1%	70	46.7%
90 - 100	27	17.6%	33	22.0%
<i>N</i>	153	100.0%	153	100.0%
Mean	0.79		0.83	
SD	0.10		0.08	
[†] Paired sample t-test	-12.267***			
Min	0.50		0.62	
Max	0.95		0.97	
Skewness	-0.43		-0.51	
Kurtosis	-0.51		-0.49	
Kolmogorov	0.013		0.001	
Normality rejected	Yes		Yes	
Median	0.78		0.83	
[‡] Wilcoxon	-9.416***			

[†]Compares the mean differences across the compliance scores measured by the two different methods. [‡]Compares the median differences across the compliance scores measured by the two different methods.

Arguably, a relative degree of non-compliance with IFRS disclosure requirements might have been expected in countries with substantially different financial reporting regimes compared to IFRS, during the first year of IFRS implementation. However, the findings in Table 4.14 illustrate a relatively low average level of compliance with IFRS mandatory disclosures in 2005 by Greek listed companies. This approximates to 80% (actual levels depend on the method employed for measuring compliance). Table 4.14 also indicates that there is considerable variation in the compliance scores identified: standard deviations are 10% or 8%, depending on the method employed

for measuring compliance. Additionally, approximately, only 20% of the companies examined complied at a level higher than 90%.

This high variability of compliance scores indicates that substantially different levels of information reached the users of financial statements. This is exacerbated when one looks at the levels of compliance with individual standards (see next section). (This has particular relevance for the purposes of the analysis discussed in the next chapter (5) regarding the valuation implications of mandatory disclosures.)

These findings are consistent with the discussion in chapter 2 regarding the low enforcement mechanisms in Greece in general and, in particular, the lenient approach taken by the regulator regarding compliance with IFRS during the first years of their implementation. They also reflect on the tendency of Greek companies not to provide high levels of disclosures (cf. Vlachos, 2001; Tsakumis, 2007). Possibly, they also indicate the low familiarity of Greek accountants and auditors regarding IFRS requirements.

The relatively high non-compliance levels identified confirm the concerns expressed in the literature regarding the role that enforcement mechanisms play in the achievement of a successful level of comparability across jurisdictions that adopt IFRS (e.g. Ball, 2006; Nobes, 2006; Weetman, 2006; Giner and Rees, 2005; Schipper, 2005). In fact, the findings of the present study are in favour of the argument raised by Nobes and Parker (2008) that low enforcement mechanisms may result in *de facto* voluntary compliance with IFRS.

Although caution is needed, if one makes the ‘heroic’ assumption that results of studies measuring compliance with mandatory disclosures in different countries are comparable, these findings are similar to prior studies investigating compliance with mandatory disclosures in emerging capital markets (e.g. *Hong Kong* (Tai et al., 1990); *Bangladesh* (Ahmed and Nicholls, 1994); *Spain* (Wallace et al. 1994); *Czech Republic* (Patton and Zelenka, 1997); *Zimbabwe* (Owusu-Ansah, 1998b)). It is notable that these studies refer to samples relating to the late 1980s or early/mid 1990s and in countries where low enforcement has been indicated. Additionally,

these findings are significantly lower than the results of Vlachos (2001) who examined Greek listed companies' compliance with Greek law requirements 10 years before the period covered in the present study. (However, as discussed above, Vlachos' (2001) results might be biased upwards). Thus, these compliance levels do not reflect the compliance levels that would be expected to be identified in a developed market (as is ASE) nowadays.

4.7.2.2 Methodological considerations

Consistent with the findings of the pilot study, it is shown that the two methods employed produce significantly different compliance scores. Both the 'paired sample t-test' and the 'Wilcoxon test' indicate that Cooke's method produces significantly higher scores than the PC method. Thus, care is needed when one reads the findings of a study examining compliance with IFRS disclosure requirements, if only one method has been used.

This is further supported when one looks at the frequencies regarding the compliance scores below the threshold of 80%. When compliance has been measured with the PC method, approximately 50% of the companies belong to this category. However, when the commonly used method is employed, approximately 30% of the companies appear in this category. Al-Shiab (2003) implements only the PC method and this might be a reason for reporting substantially lower compliance scores compared to studies in other emerging markets for a similar period (e.g. Hassan et al. (2006) with reference to Egypt.) At the same time, the findings of prior studies using only 'Cooke's method' may report relatively inflated scores (depending on the number of items from each accounting standard included in the research instrument). As discussed above, only the study of Street and Gray (2001) uses the two methods simultaneously and their findings provide preliminary support for this argument. However, they do not test statistically the differences between the scores produced under the two different methods.

In line with the approach taken in the pilot study, to illustrate the potential of misleading results under Cooke's method, the corresponding findings are provided in

Table 4.15, after having excluded the compliance score with the disclosure requirements of IAS 1. As was indicated previously, IAS 1 contains the larger number of items required to be disclosed. Additionally, it deals mainly with presentational issues and not with measurement and recognition issues. (In fact, as shown in the pilot study, the results in the next section indicate that the majority of companies tend to comply with its requirements and thus driving the overall compliance score upwards).

Table 4:15: Frequency and distribution of compliance scores, excluding IAS 1 (N=153).

Compliance Score	PC method		Cooke's method	
40-49	1	0.7%	1	0.7%
50 - 59	9	5.9%	12	7.8%
60 - 69	24	15.7%	30	19.6%
70 - 79	48	31.4%	43	28.1%
80 - 89	46	30.1%	57	37.3%
90 - 100	25	16.3%	10	6.5%
<i>N</i>	153	100.0%	153	100%
Mean	0.78		0.76	
SD	0.10		0.11	
[†] Paired sample t-test	5.644***			
Min	0.48		0.46	
Max	0.94		0.95	
Skewness	-0.45		-0.50	
Kurtosis	-0.49		-0.46	
Kolmogorov	0.013		0.081	
Normality rejected	Yes		Yes	
Median	0.78		0.78	
[‡] Wilcoxon	-5.659***			

[†]It compares the mean differences across the compliance scores measured by the two different methods. [‡]It compares the median differences across the compliance scores measured by the two different methods.

The results in Table 4.15 are in line with the findings of the pilot study. The average score reduces by only 1% for the PC method and median score remains the same. However, the average score for Cooke's method reduces dramatically by 7% and the median by 5%.⁸⁶ Thus, the results of the two methods now become very similar. However, although the absolute difference between the scores produced by the two methods is smaller it continues to be significantly different. More specifically, the

⁸⁶ Wilcoxon signed rank tests and Paired sample t-tests were conducted and illustrated that these changes (decreases) are significant at 1%.

average compliance scores under Cooke's approach are marginally lower than those of the PC method.

Most importantly, the frequencies regarding the companies found under the 80% threshold remain the same for the PC method whereas they change dramatically for the scores under Cooke's approach: from being 33.3% previously, they increase to 56.2% after excluding IAS 1. Similar is the case for the percentage of companies being in the range between 90-100%. From representing 22% previously, they represent only 6.5% after excluding IAS 1, as far as Cooke's method is concerned. The corresponding figure reduces only by 1.3% with reference to the PC method.

These findings illustrate how sensitive the scores produced under Cooke's method might be to the number of items mandated by the standards included in the research instrument. Thus, arguably, misleading conclusions about the extent to which companies comply with mandatory disclosures may be drawn. Accordingly, these findings strengthen the proposition for researchers to employ both methods when conducting this type of research, so as to avoid producing misleading findings. As discussed in 4.6.2 and 4.6.3 this may also have econometric implications regarding the findings relating to the factors explaining compliance. (The findings of Street and Gray (2001), as well as those provided in 4.6.5 and 4.7.6 below, support this argument.)

4.7.3 Compliance with the disclosure requirements of each standard separately

As was indicated in 4.6.3, the research instrument was designed in such a way as to capture the compliance scores for each standard separately. Table 4.16 provides the descriptive statistics regarding these findings. Compliance scores across standards have been ranked in a descending order on the basis of the average score. *N* indicates the number of companies for which each standard was relevant. The standard deviation of compliance scores is also of relevance for the purposes of this study.

Table 4:16: Frequency and distribution of compliance scores for each standard separately.

Standards	N	Mean	SD	Minimum	Maximum	Median
IAS 10	153	0.96	0.13	0.00	1	1.00
IAS 1	153	0.95	0.05	0.69	1	0.96
IAS 33	153	0.92	0.22	0.00	1	1.00
IAS 16	152	0.92	0.11	0.55	1	1.00
IFRS 2	12	0.90	0.26	0.14	1	1.00
IAS 7	153	0.90	0.16	0.44	1	1.00
IAS 18	153	0.89	0.22	0.00	1	1.00
IAS 38	133	0.89	0.18	0.00	1	1.00
IAS 27	120	0.88	0.21	0.00	1	1.00
IAS 2	153	0.87	0.20	0.00	1	1.00
IAS 20	106	0.86	0.24	0.00	1	1.00
IFRS 1	153	0.86	0.13	0.40	1	0.80
IAS 11	16	0.81	0.24	0.25	1	0.88
IAS 32	150	0.80	0.19	0.25	1	0.83
IAS 24	153	0.77	0.25	0.00	1	0.80
IAS 12	153	0.74	0.18	0.17	1	0.83
IAS 41	11	0.73	0.22	0.25	1	0.70
IAS 23	149	0.73	0.44	0.00	1	1.00
IAS 40	40	0.72	0.22	0.17	1	0.73
IFRS 3	49	0.72	0.31	0.00	1	0.80
IAS 21	115	0.71	0.42	0.00	1	1.00
IAS 14	95	0.71	0.25	0.00	1	0.75
IAS 37	106	0.70	0.24	0.13	1	0.71
IAS 31	18	0.64	0.27	0.20	1	0.67
IAS 19	152	0.64	0.27	0.00	1	0.78
IAS 28	71	0.63	0.31	0.00	1	0.67
IFRS 5	13	0.61	0.40	0.00	1	0.67
IAS 17	93	0.51	0.29	0.00	1	0.50
IAS 8	153	0.51	0.43	0.00	1	0.60
IAS 36	52	0.50	0.35	0.00	1	0.50
IFRS 6	1	0.50	-	0.50	0.5	0.50

Some key observations worth discussion. IAS 10 is the standard with the highest average compliance score. This is because the majority of companies complied with the relatively straight-forward requirement of disclosing ‘the date when the financial statements were authorised for issue and who gave that authorisation’ (paragraph

17). However, measuring compliance with this standard may entail high subjectivity because it is not always evident if a post-balance sheet event has incurred. Hence, it is not always evident whether disclosure is omitted or there is no event to be disclosed.

IAS 1 follows with an average compliance score of 95%. It is noted that compliance with this standard exhibits the lowest standard deviation (5%). This illustrates that the majority of companies have complied with almost all of its requirements. A possible explanation is that it is easier for companies to comply with the disclosures it mandates since some of the information required is very basic (e.g. name of the entity, description of operations, provision of financial statements, and the key items to be included in the financial statements). Accordingly, complying with the requirements of this standard does not lead to high proprietary costs (Al-Shammari, 2005).

A relatively high compliance score is observed with regard to IAS 18. However, a very high standard deviation is shown (22%). This derives from the fact that many companies did not disclose ‘the amount of each significant category of revenue recognised during the period’ (paragraph 35b). This non-disclosure indicates the proprietary costs involved with disclosing this kind of information. This is similar to the case of IAS 20 with reference to government grants. On the one hand, the policy adopted with regard to government grants was disclosed. On the other hand, a large proportion of the companies remained silent regarding ‘the nature and extent of government grants recognised in the financial statements and an indication of other forms of government assistance from which the entity has directly benefited’ (paragraph 39b).

Finally, it is observed that standards that introduced new measurement and/or recognition requirements compared to Greek GAAP, exhibit very low average levels of compliance. They also exhibit significantly high variability of compliance scores. Similar is the case for the standards require disclosures that involve high proprietary costs. Some examples include the following: IAS 40 (72%, sd: 22%); IFRS 3 (72%,

sd: 31%); IAS 14 (71%, sd: 25%); IAS 37 (70%, sd: 24%); IAS 19 (64%, sd: 27%); IAS 28 (63%, sd: 31%); IAS 17 (51%, sd: 29); and IAS 36 (50%, sd: 35%).

The figures in Table 4.16 also indicate that there were companies which did not provide any of the information required by these standards (i.e. compliance score is zero). In fact, these instances were not few (e.g. 10 regarding IAS 17; five regarding IAS 36; five regarding IAS 19). On a more positive note, there were some companies that exhibited full compliance with the requirements of those standards (e.g. 11 regarding IAS 17 and 11 regarding IAS 36 but only one regarding IAS 19). It is noteworthy that, although the instances of qualified reports were not few, none of the qualifications was referring to non-compliance with IFRS disclosure requirements.

Overall, these findings illustrate significant variability in the information reaching users of the first IFRS financial statements in Greece. This is more noticeable regarding standards which reflect on companies' wealth and obligations as well as their future prospects.

4.7.4 Comparisons across categories of companies

One of the main objectives of this study is the identification of the company characteristics associated with observed compliance levels with mandatory disclosures (i.e. providing an answer to Q3). Before proceeding with the univariate and multivariate analyses (sections 4.7.5 and 4.7.6 respectively) which provide an answer to this question, similar to Abd-Elsalam and Weetman (2003), the tables below present the mean values of the disclosure scores with reference to the various company characteristics examined in this study.⁸⁷ These categories of companies have been disaggregated on the basis of the following characteristics: the median values with regard to size, gearing, profitability and liquidity; the value of one with regard to Gray's comparability index (indicating no change); and the dummy variables regarding their market-related characteristics defined above. Thus, the

⁸⁷ The discussion focuses on the mean values in order to provide consistent information with the parametric tests that follow.

disaggregated information provides some background information regarding the findings of the univariate and multivariate analyses that follow.

The information provided in Table 4.17 suggests that large companies and companies with ‘Big 4’ auditors comply, on average, most with IFRS disclosure requirements. Additionally, companies with a negative change in shareholders’ equity and a positive change in net income, as a result of the adoption of IFRS, also seem to comply with marginally higher levels with IFRS requirements. Similar is the case for non-manufacturing companies. However, no other clear evidence is provided when considering the results based on both methods for measuring compliance.

Consistent with the previous discussion, the compliance scores under Cooke’s method are higher with regard to every sub-sample. However, the direction of the differences between the average scores across the sub-samples is the same. (The exception is the scores with reference to gearing.)

Table 4:17: Average values of compliance scores across categories of companies.

Variable	PC Method	Cooke’s Method
	Average Compliance	Average Compliance
<i>Structure-related</i>		
Size (Larger)	0.81	0.84
Size (Smaller)	0.77	0.81
Gearing (Higher)	0.79	0.82
Gearing (Lower)	0.78	0.83
Positive change in (2004) Shareholders’ equity (N=79)	0.78	0.82
Negative change in (2004) Shareholders’ equity (N=74)	0.79	0.83
<i>Performance-related</i>		
ROS (Higher)	0.78	0.83
ROS (Lower)	0.79	0.83
Positive change in (2004) NI (N=68)	0.79	0.83
Negative change in (2004) NI (N=85)	0.78	0.82
Liquidity (Higher)	0.78	0.83
Liquidity (Lower)	0.79	0.83
<i>Market-related</i>		
Auditor ‘Big 4’ (N=38)	0.88	0.90
Auditor non-‘Big 4’ (N=115)	0.76	0.80
Industry: manufacturing (N=59)	0.77	0.82
Industry: non-manufacturing (N=94)	0.80	0.83

To be consistent with the discussion in relation to the influence of IAS 1, the corresponding figures are presented in Table 4.18 after having excluded the compliance scores related to IAS 1. The observations regarding the groups of companies exhibiting higher compliance levels do not change. However, as was expected, the average scores under the commonly used dichotomous approach are substantially lower.

Table 4:18: Average values of compliance scores across categories of companies, excluding IAS 1.

Variable	PC Method	Cooke's Method
	Average Compliance	Average Compliance
<i>Structure-related</i>		
Size (Larger)	0.80	0.79
Size (Smaller)	0.76	0.74
Gearing (Higher)	0.78	0.76
Gearing (Lower)	0.78	0.76
Positive change in (2004) Shareholders' equity (N=79)	0.77	0.76
Negative change in (2004) Shareholders' equity (N=74)	0.79	0.76
<i>Performance-related</i>		
ROS (Higher)	0.77	0.76
ROS (Lower)	0.78	0.76
Positive change in (2004) NI (N=68)	0.78	0.77
Negative change in (2004) NI (N=85)	0.77	0.76
Liquidity (Higher)	0.78	0.76
Liquidity (Lower)	0.78	0.76
<i>Market-related</i>		
Auditor 'Big 4' (N=38)	0.88	0.86
Auditor non-'Big 4' (N=115)	0.75	0.73
Industry: manufacturing (N=59)	0.76	0.75
Industry: non-manufacturing (N=94)	0.79	0.77

4.7.5 Univariate analyses

4.7.5.1 Descriptive statistics of the transformed variables

As discussed in 4.6.5 and 4.6.6, the dependent and independent variables have been transformed for the purposes of the univariate and multivariate analyses. The dependent variables (i.e. compliance scores) have been transformed into percentile ranks and by using the 'log of the odds' ratio. The purpose of these transformations is mainly to bring the observations of the compliance scores closer to a normal

distribution. Table 4.19 presents the descriptive statistics regarding the transformed dependent variables. In line with Cooke (1998), it is shown that the transformation by using the log of the odds ratio it is not always able to perfectly correct for kurtosis and skewness. The compliance scores as measured by employing the PC method, transformed with the log of the odds ratio, are not normally distributed. However, as expected, they are substantially less skewed compared to the raw scores presented in Table 4.14. All other transformed scores are normally distributed.⁸⁸

Table 4:19: Descriptive statistics on transformed dependent variables.

Statistics	PC Method		Cooke's Method	
	Percentile Ranks	Log of the Odds	Percentile Ranks	Log of the Odds
Mean	0.50	1.42	0.50	1.67
SD	0.29	0.65	0.29	0.58
Min.	0.00	0.00	0.00	0.50
Max.	1.00	2.88	1.00	3.44
Median	0.50	1.28	0.50	1.61
Skewness	0.000	0.200	0.000	0.226
Kurtosis	-1.200	-0.774	-1.200	-0.456
Kolm. Smirnov	0.200*	0.005	0.200*	0.200*
Normality rejected	No	Yes	No	No

*This is the lower bound of true significance.

4.7.5.2 Main findings

Table 4.20 reports on the univariate (parametric) analyses testing the hypotheses formed in this part of the study (i.e. H4.1 – H4.8). The findings with regard to these analyses show a consistently significantly positive association between companies' size and the extent of compliance with IFRS mandatory disclosures (at 1%). The evidence is similar regarding the association between the size of audit firm and levels of compliance. These associations confirm the descriptive information provided in the previous section regarding the compliance levels of the companies in these groups. Based on these findings, H4.1 and H4.7 are accepted.

Additionally, there is evidence that the difference between 2004 net profit as reported under Greek GAAP and the corresponding restated figure under IFRS is associated

⁸⁸ The transformations of the independent variables resulted in significantly less skewed but not normal distributions.

with companies' levels of compliance with IFRS mandatory disclosures. Thus, hypothesis H4.5 is also accepted. It is to be remembered that, the higher the value of Gray's comparability index, the more negative the effect on transition to IFRS. Hence, the negative association between earnings comparability index and compliance levels implies that the more positive the change in net income reported in the reconciliation statements the higher the compliance levels provided. It is notable that, although being significant when the dependent variable has been transformed into percentile ranks, there is evidence that the change in 2004 shareholders' equity, as a result of the transition to IFRS, is also significantly associated with companies' levels of compliance. However, the sign of the relationship is opposite to that relating to the change in net income.

Table 4:20: Univariate analyses: associations between corporate characteristics and levels of compliance with IFRS mandatory disclosures (H4.1 - H4.8).

Variables	PC Method		Cooke's Method	
	Percentile Ranks	Log of the Odds	Percentile Ranks	Log of the Odds
Size	0.233***	0.237***	0.217***	0.219***
Gearing	0.077	0.096	0.027	0.021
EquCo_I	0.013*	0.019	0.037*	-0.041
Profitability	0.050	0.060	0.093	0.101
Ear_Co_I	-0.145*	-0.124*	-0.159*	-0.141*
Liquidity	-0.102	-0.092	-0.093	-0.086
Auditor	0.571***	0.589***	0.540***	0.535***
Industry	-0.133*	-0.147*	-0.094	-0.094

*Significant at 10%, ***Significant at 1%.

4.7.5.3 Methodological considerations

Before proceeding with the findings regarding the multivariate analyses carried out, the following observations based on the findings reported in 4.20 need to be discussed. The results illustrate that potentially misleading findings would have been reported if only one of the two methods has been followed for measuring compliance with IFRS mandatory disclosures. As was speculated in the pilot study, those corporate characteristics that appear to be significantly associated with the extent of companies' compliance with mandatory disclosures when one method has been employed, differ from that appear to be significant when the alternative method is employed.

In particular, following the PC method only, would have reported a negative association between industry type and levels of compliance. Thus, acceptance of H4.8 would have also been claimed. However, this finding would not be valid if Cooke's method had only been employed.

Table 4.21 below provides preliminary evidence that these differences are not eliminated even if IAS 1 is excluded. In fact, acceptance of H4.3 could be claimed with all other findings being the same if one had measured compliance only with the PC method. This is because, in this case, the change in 2004 shareholders' equity, as a result of the transition to IFRS, is also significantly associated with companies' levels of compliance with mandatory disclosures under both transformations of the dependent variable. These findings do not seem unexpected if one considers that, when IAS 1 (i.e. the standard acting as an outlier) is excluded from the analyses, the two methods continue to produce significantly different compliance scores (albeit less diverged).

Table 4:21: Univariate analyses: associations between corporate characteristics and levels of compliance with IFRS mandatory disclosures (H4.1-4.8), excluding IAS 1.

Variables	PC Method		Cooke's Method	
	Percentile Ranks	Log of the Odds	Percentile Ranks	Log of the Odds
Size	0.240***	0.219***	0.263***	0.236***
Gearing	0.070	0.160*	0.044	0.090
EquCo_I	0.026*	0.121*	-0.014	0.037*
Profitability	0.093	-0.026	0.119	0.015
Ear_Co_I	-0.122*	-0.068*	-0.127*	-0.036*
Liquidity	-0.092	-0.079	-0.122	0.012
Auditor	0.542***	0.637***	0.535***	0.594***
Industry	-0.145*	-0.150*	-0.090	-0.145*

*Significant at 10%, **Significant at 5%.

4.7.6 Multivariate analyses

4.7.6.1 Main findings

This section reports the findings of the multivariate analyses for testing H4.1 – H4.8. As was indicated above, multivariate analysis provides more reliable findings, than the univariate analysis. This is because it also considers the interaction between the independent variables. These are ignored in the univariate analysis setting (Owusu-Ansah and Yeoh, 2005; Vlachos, 2001).

Appendix III provides the Pearson correlation matrix reporting the levels of collinearity between the independent variables employed in these analyses. It is shown that there is no concern of collinearity. No association higher than 0.5 exists; whilst the threshold had been set at 0.7.

Focusing on the findings reported in Table 4.22, it can be seen that all regression models are significant at 1% level (F values). This indicates that the proposed corporate characteristics explain a significant part of the variation of the levels of compliance with IFRS mandatory disclosures. Additionally, it is observed that all of the variance inflation factors (VIF) are lower than two, confirming that there is no concern of multicollinearity between the independent variables.

Moreover, it is indicated that the regressions where the dependent variable is the compliance scores transformed by using the log of the odds ratio, report a high mean square error (MSE). In fact, it is substantially higher than that of the regression where the dependent variable has been transformed into percentile ranks. Consistent with the prior literature (e.g. Cooke, 1998; Abd-Elsalam and Weetman, 2003; Leventis and Weetman, 2004a) and with the criterion set in 4.6.7 (i.e. minimum MSE), the discussion that follows concentrates on the regression models with the percentile ranks as the dependent variable.⁸⁹ Finally, it is highlighted that the analysis regarding the regression referring to the PC method is based on 146 observations whereas that using Cooke's method is based on 145 observations. This is because

⁸⁹ It is noted that the regressions with the log of the odds ratio as the dependent variable tend to report very similar results.

there is an additional observation appearing to be influential and has been treated as an outlier with regard to Cooke's method.

Table 4:22: Multivariate analyses: associations between corporate characteristics and levels of compliance with IFRS mandatory disclosures (H4.1-4.8).

Variables	PC Method				Cooke's Method			
	Percentile Ranks	VIF	Log of the Odds	VIF	Percentile Ranks	VIF	Log of the Odds	VIF
<i>Intercept</i>	0.202		0.935*		0.383		1.752***	
Size	0.006	1.51	0.004	1.50	-0.005	1.53	-0.023	1.51
Gearing	-0.088	1.30	-0.131	1.28	-0.090	1.30	-0.082	1.27
EquCo_I	0.165***	1.20	0.331***	1.18	0.114**	1.18	0.150*	1.18
Profitability	-0.127	1.44	-0.068	1.41	0.135	1.47	0.250	1.41
Ear_Co_I	-0.022***	1.18	-0.049***	1.18	-0.018***	1.09	-0.032***	1.18
Liquidity	0.006	1.22	0.008	1.21	0.026	1.20	0.018*	1.21
Auditor	0.392***	1.35	0.920***	1.36	0.407***	1.03	0.821***	1.36
Industry	-0.087**	1.02	-0.191**	1.03	-0.059	1.02	-0.090	1.02
<i>F</i>	20.82***		20.42***		18.43***		16.96***	
<i>Adj. R²</i>	0.39		0.41		0.35		0.36	
<i>MSE</i>	0.050		0.239		0.054		0.203	
<i>N</i>	146		145		145		144	

*Significant at 10%, **Significant at 5%, ***Significant at 1%.

The adjusted R^2 indicates that the corporate characteristics selected for the purposes of this study explain at 39% (PC method) or 35% (Cooke's method) the variation in companies' levels of compliance with mandatory disclosures. The findings of these analyses confirm the findings regarding the association between type of audit firm and levels of compliance with mandatory disclosures identified with the univariate analyses. A significantly positive association (at 1%) is reported. Additionally, the findings are in line with the evidence that the difference between 2004 net profit, as reported under Greek GAAP, and the corresponding restated figure under IFRS is associated with companies' levels of compliance with IFRS mandatory disclosures. A significantly negative association (at 1%) is identified.

Beyond these findings, a significantly positive association (at 1% or at 5%) between the difference of 2004 shareholders' equity, as reported under Greek GAAP, and the corresponding restated figure under IFRS and companies' levels of compliance with IFRS mandatory disclosures is reported. Such a positive association indicates that more negative the impact from the adoption of IFRS in this measure the higher the

compliance with IFRS mandatory disclosures. Focusing on the coefficients, it is indicative that the highest weighted variable is audit firm type. This is followed by the change in 2004 shareholders' equity and the change in 2004 net profit, as a result of the transition to IFRS.

On that basis, H4.3, H4.5 and H4.7 are accepted. It is concluded that companies with a 'Big 4' auditor, exhibited more positive changes in their restated IFRS 2004 net profit figure and exhibited more negative changes in their restated IFRS 2004 shareholders' equity figure, comply most with IFRS mandatory disclosures.

4.7.6.2 Methodological considerations

The results in Table 4.22 confirm the findings illustrated in the previous section regarding the different significant associations between corporate characteristics and compliance levels, because of the use of different methods for measuring compliance.

In particular, use of the PC method only, would have reported that industry type is also a factor associated with the extent to which companies comply with IFRS mandatory disclosures. Thus, acceptance of H4.8 would have also been claimed. In contrast, this would not have been the case if Cooke's method had followed only.

One could argue that these differences, identified in the multivariate analyses, may be attributed to the fact that one additional observation is included in the tests with reference to compliance scores being measured by using the PC method. To explore if this is the case, the previous analyses have been repeated by excluding this observation. The results (not tabulated) indicate that although the size of the coefficients change slightly the overall findings do not change. Industry type continues to be significantly negatively associated with the extent of companies' compliance under the PC method. However, it remains insignificant under Cooke's method. These results allow for the conclusion that the influential observation does not affect the overall findings, i.e. the fact that different corporate characteristics

appear to be significant having followed a different method for measuring compliance.

To be consistent with the previous discussion, further explorations have been carried out by excluding IAS 1. The corresponding findings are presented in Table 4.23 and refer to the same companies that the main findings refer to (i.e. Table 4.22).

Table 4:23: Multivariate analyses: associations between corporate characteristics and levels of compliance with IFRS mandatory disclosures (H4.1-4.8), excluding IAS 1.

Variables	PC Method				Cooke's Method			
	Percentile Ranks	VIF	Log of the Odds	VIF	Percentile Ranks	VIF	Log of the Odds	VIF
<i>Intercept</i>	0.175		0.841		0.194		0.954*	
Size	0.008	1.51	0.006	1.50	0.006	1.53	-0.002	1.51
Gearing	-0.090	1.30	-0.129	1.28	-0.102	1.30	-0.078	1.27
EquCo_I	0.171***	1.20	0.343***	1.18	0.129***	1.18	0.206**	1.18
Profitability	-0.143	1.44	-0.082	1.41	0.064	1.47	0.107	1.41
Ear_Co_I	-0.022***	1.18	-0.050***	1.18	-0.017***	1.09	-0.034***	1.18
Liquidity	0.005	1.22	0.006	1.21	0.015	1.20	-0.004	1.21
Auditor	0.389***	1.35	0.926***	1.36	0.408***	1.03	0.886***	1.36
Industry	-0.090**	1.02	-0.196**	1.03	-0.062	1.02	-0.106	1.02
<i>F</i>	21.18***		20.32***		18.80***		17.56***	
<i>Adj. R²</i>	0.40		0.42		0.38		0.40	
<i>MSE</i>	0.050		0.244		0.051		0.216	
<i>N</i>	146		145		145		144	

Significant at 5%, *Significant at 1%.

Consistent with the corresponding findings when the univariate tests were conducted, it is shown that the results do not change when IAS 1 is excluded. Industry type continues to be significant under the PC method but insignificant under Cooke's method. Accordingly, although excluding the 'influential' standard (i.e. IAS 1) leads to more similar scores between the two methods (see Table 4.15) the corporate characteristics associated with compliance levels differ when the two methods employed simultaneously.

4.7.7 Discussion of the results

4.7.7.1 Interpretation of the findings

Drawing upon the findings of the univariate and multivariate analyses provided above (Tables 4.20 and 4.22), Table 4.24 summarises the factors associated significantly with Greek companies' levels of compliance with IFRS mandatory disclosures in 2005. It also reports the sign of the association identified.

Table 4:24: Summary of results: univariate and multivariate analyses.

Variables	PC Method		Cooke's Method	
	Univariate	Multivariate	Univariate	Multivariate
Size	Supported (+)	NS	Supported (+)	NS
Gearing	NS	NS	NS	NS
EquCo I	NS	Supported (+)	NS	Supported (+)
Profitability	NS	NS	NS	NS
Ear Co I	Supported (-)	Supported (-)	Supported (-)	Supported (-)
Liquidity	NS	NS	NS	NS
Auditor	Supported (+)	Supported (+)	Supported (+)	Supported (+)
Industry	Supported (-)	Supported (-)	NS	NS

NS: Not supported

Structure-related variables

The descriptive analysis in Table 4.17 (Average values of compliance scores across categories of companies) indicates that larger companies disclose more information than smaller companies. The univariate analyses confirm this, by showing that, when size is tested independently from other factors, it is significantly and positively associated with compliance levels. This is in line with what the majority of prior literature and theoretical underpinnings suggest. However, the multivariate analyses report no significant association between size and the extent of companies' compliance with IFRS mandatory disclosures. This is in line with the findings of Ahmed and Nicholls (1994), Tower et al. (1999), Street and Bryant (2000), Street and Gray (2001), and Glaum and Street (2003) who also find no significant relationship between size and the extent to which companies comply with mandatory disclosures.

As was indicated previously, size can be used as a proxy in several theoretical frameworks (e.g. information and political costs, agency theory, and capital need theory). Thus, it is correlated with other variables (Hossain et al., 1994) and can provide limited theoretical insights. In fact, Appendix III indicates that the size of companies used is correlated with both profitability and auditor size. Thus, when the multivariate tests are conducted, the significance of size as an explanatory factor for companies' compliance is possibly obscured by the significance of audit firm size.

However, size is used as a proxy for the structure of a company which is assumed to stay stable over time. The findings of the previous chapter indicate that companies' shareholders' equity was significantly affected on transition to IFRS. Accordingly, companies' 'financial structure' (i.e. the proportion of shareholders' equity to other balance sheet items) changed significantly. Accordingly, it is more probable that the significance of size is also obscured in the present study because of the strong relationship between the impact reported in companies' reconciliation statements with regard to shareholders' equity and levels of compliance.

More specifically, the univariate analyses with reference to the compliance scores transformed into percentile ranks illustrate a positive and significant relationship between the shareholders' equity comparability index and compliance levels. In particular, strong evidence supporting this finding is reported with the multivariate analyses. Irrespective of the transformation or the method employed for measuring compliance, this measure is positively associated with the levels of compliance with disclosure requirements.⁹⁰ These results confirm the preliminary evidence shown in Table 4.17 that companies with a negative impact on shareholders' equity exhibit higher compliance levels.

This finding can be interpreted in the following way. The descriptive statistics in Table 4.9 indicate that, for the companies used in this part of the study, shareholders'

⁹⁰ As mentioned in 4.6.5, multivariate analysis allows for an examination of the relationship between the dependent variable (transformed compliance score in this case) and 'each of the corporate characteristics (independent variables), while simultaneously controlling for the effects of other independent variables in the model' (Vlachos, 2001: 190). Hence, multivariate analyses provide more powerful results and thus they are considered as more robust (cf. Owusu-Ansah and Yeoh, 2005).

equity under Greek GAAP was, on average, materially higher (11%) than the restated figure under IFRS. The same Table indicates however that more companies faced a positive impact on transition to IFRS with regard to this measure (median being 0.99-confirmed in Table 4.17). This indicates that there are several companies where the negative impact is material which drives the average score (of the index) upwards. In fact, an analysis of the frequencies of this variable (not tabulated) indicates that, out of the 74 facing a negative impact, only 26 companies faced a non-material change. The remaining 48 faced a change of more than 10%.

This significant change in shareholders' equity, as a result of the introduction of IFRS, could have profound implications on managers' 'compliance behaviour'. Considering prior evidence that companies' levels of compliance with mandatory disclosures are associated with shareholders' equity (cf. Tai et al., 1990), this finding is in line with what agency theory posits. Within that framework, company managers may well be under pressure to 'communicate' and explain why their financial position appears to be worse under the higher quality accounting standards (i.e. IFRS) which are believed to reflect companies' assets and liabilities more accurately. This would also pre-empt allegation of such a significant change being due to fraudulent accounting practices under Greek GAAP. Additionally, such a negative impact would indicate poorly managed companies and this, according to the 'market discipline' perspective, would jeopardise management's reputation. Hence, higher levels of compliance with IFRS mandatory disclosures facilitate minimisation of agency costs.

As far as gearing is concerned, it appears not to be significant under both the univariate and the multivariate analyses. This finding is in line with some of the prior literature (e.g. Patton and Zelenka, 1997; Tower et al., 1999; Al-Shiab, 2003; Ali et al., 2004) which also finds no relationship between gearing and compliance with mandatory disclosures. This finding may not be surprising if one considers Greece's particular features. As explained by Camfferman and Cooke (2002), in code-law countries (as is Greece) where banks are the main providers of finance, high levels of disclosures are redundant as companies have regular communication with lenders.

This close relationship between Greek companies and banks is well documented in the literature (e.g. Ballas et al. 1998; Baralexis, 2004, Tzovas, 2006).⁹¹ This is also why Ballas (1994: 114) argues that attempts to modernise accounting policies, especially in the area of disclosures, had been torpedoed in the past.

Thus, creditors may receive the information which would be provided in the notes to the financial statements through personal communication and so companies decide not to incur the necessary information costs involved in preparing detailed notes for IFRS financial statements. This is particularly relevant if one considers the timing of the examination of companies' compliance levels (i.e. first year of IFRS implementation). From the managers' point of view, understanding and implementing the measurement and recognition requirements of IFRS might be considered more important than producing notes to the accounts which, arguably, may be redundant anyway.

Performance-related variables

The difference between 2004 net profit as reported under Greek GAAP and the corresponding restated figure under IFRS appears to be the second factor consistently associated with companies' levels of compliance with IFRS mandatory disclosures in 2005. Both the univariate and multivariate tests indicate a significantly negative association between the earnings comparability index and the extent to which Greek companies comply with mandatory disclosures. Considering that the higher the value of the index the more negative the difference between the two figures, this finding suggests that the more positive the change the higher the disclosures provided. However, the coefficient of this variable is relatively low in the multivariate analyses indicating a lower weight compared to other variables.

Table 4.17 illustrates that the majority of companies in the sample (85) faced a negative change in this measure. Additionally, Table 4.11 illustrates that, on average, net income was 29% higher under Greek GAAP compared to the restated figure under IFRS, suggesting that a large number of companies faced a material negative

⁹¹ This was also mentioned by the interviewee from the banking sector.

change in this measure. In fact, an analysis of the frequencies of this variable (not tabulated) indicates that, out of the 85 facing a negative impact, only 20 companies faced a non-material change. The remaining 65 faced a change of more than 10%.

On that basis, the present finding (i.e. that the more positive the change the higher the compliance levels) can be interpreted with the propositions of signalling theory. Within this framework, it could be suggested that management provides extended levels of compliance to communicate that previous year's performance was low, not because of their inefficiency but because Greek GAAP was of poor quality, i.e. the previous accounting regime produced conservative reported performance. This meets the objective of signalling that their companies had performed well in terms of profitability but the accounting rules did not allow this to be reflected on the financial statements. Accordingly, in this way, the managers of these companies try to 'screen' their companies from those remaining (i.e. the majority) which faced a negative change. Thus, 'non-lemon owners have an incentive to communicate' (Spence, 1974: 93) in order to avoid the adverse selection problem.

Furthermore, this finding can also be consistent with the propositions of agency theory. Managers may well be under pressure to 'communicate' the reasons for such an improvement in companies' restated profitability. This would pre-empt allegation that such a significant change is due to fraudulent accounting practices. In particular, reporting substantially improved restated profitability may trigger the suspicion of shareholders under the rationale that this improvement is a result of a 'transitional big bath' leading to misleading perceptions about companies' profitability levels and, potentially, good future prospects (Inchausti, 1997). Hence, higher disclosures facilitate the minimisation of agency costs in this respect.

Finally, in line with the premises of political costs theory, a positive change could well be interpreted as companies intentionally reporting lower profits under Greek GAAP so as not to attract the public eye. Accordingly, companies whose restated profitability was affected significantly positively might be more concerned that this

change may trigger political action with reference to past performance. Thus, higher compliance levels may reflect management's efforts to minimise political action.

The other two performance related variables (i.e. liquidity and profitability) are not significantly associated with companies' compliance with IFRS mandatory disclosures. Liquidity has also been found by Wallace and Naser (1995) and Owusu-Ansah (1998b) not to be associated with companies' levels of disclosures. Vlachos (2001) reports the same finding with regard to Greece.⁹²

A reason for this lack of association may be the puzzling signal that high liquidity may transmit. Companies with excessive liquidity may be accused of not turning into investments the excessive cash. Thus, they may not be willing to provide high disclosures.⁹³ At the same time, companies with low liquidity may not be willing to provide extensive levels of disclosures that would highlight their poor performance with regard to working capital management. Hence, liquidity may not be able to capture signalling effects. As far as agency costs of debt are concerned, similar to the results regarding gearing, increased levels of mandatory disclosures may be perceived as redundant because of the frequent communication between banks and companies.

As far as profitability is concerned, this also appears not to be significantly associated with levels of compliance with mandatory disclosures. This finding is in line with prior literature examining compliance with IAS/IFRS disclosure requirements (e.g. Street and Bryant, 2000; Street and Gray, 2001; Al-Shiab, 2003; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003). An interpretation of this finding might be the potential overlap between this variable and the earnings comparability index.

⁹² Leventis (2001) also reports no significant association between liquidity and Greek companies' levels of voluntary disclosures.

⁹³ The evidence provided in Table 4.11 may support this argument even further. The mean for this measure is 2.13 and the median is 1.40, indicating that the companies included in the sample exhibit high levels of liquidity.

The transitional effects may be considered to be more important than current period's profitability levels (as they reveal the good or bad aspects of companies' financial positions and performance). Thus, managers' focus for compliance may be driven by the transitional effects. Accordingly, it appears that the signalling effects, as well as political and agency costs that could be captured by the use of current year's profitability are reflected in the impact reported in companies' reconciliation statements with regard to profitability.

Market-related variables

Table 4.17 provides descriptive evidence that companies with a 'Big 4' auditor exhibit substantially higher average compliance levels (between 12% and 10%, depending on the method employed for measuring compliance). Both the univariate and multivariate analyses confirmed such a positive association between audit firm size and the extent to which Greek companies comply with IFRS mandatory disclosures. As indicated above, positive associations have also been documented in prior literature pertinent to this study (e.g. Tai et al. 1990; Ahmed and Nicholls, 1994; Wallace and Naser, 1995; Patton and Zelenka 1997; Street and Gray, 2001; Glaum and Street, 2003). In the present research, all tests indicated that the coefficient of audit firm size was consistently the highest among the corporate characteristics employed suggesting that audit firm size is the strongest explanatory factor for the levels of compliance identified.

Several inferences can be drawn from this finding. First, these results confirm the preliminary evidence shown in the previous chapter regarding the instances of non-compliance with IFRS 1, i.e. no provision of reconciliation statements, and the relationship with audit firm size. Second, these findings are in line with the proposition that large and international audit companies may have greater competence and expertise on IFRS (cf. Dumontier and Raffournier, 1998). As discussed above (according to one of the interviewees) 'Big 4' audit companies could attract experienced employees from their foreign operations to assist in the transition process in Greece. This is of particular relevance for the objectives of the

present study since this expertise and competence should result in higher levels of compliance.

As far as theoretical considerations are concerned, these findings indicate strong evidence of the applicability of agency and signalling theories with regard to Greek listed companies' compliance with IFRS mandatory disclosures. As discussed above (3.4.3), higher earnings management as well as lower audit effort are well documented in Greece for companies with small audit firms. Thus, employing a 'Big 4' audit firm acts as a monitoring mechanism and satisfies the need for transparency and better quality financial statements. This leads to a reduction of agency costs.

Additionally, considering this context in Greece, managers may also intentionally employ a 'Big 4' firm as a signal of high accounting quality. This would allow them to 'screen' their companies from those employing small audit firms which are associated with higher earnings management as well as lower audit effort. At the same time, employing a 'Big 4' auditor would indeed result in higher compliance with mandatory disclosures (see discussion above). In fact, Hodgdon et al. (2009) illustrate in a multi-country study that compliance with IFRS mandatory disclosures is positively associated with auditor choice.

As far as industry type is concerned, Table 4.17 provides descriptive evidence that companies classified as non-manufacturing exhibit higher average compliance levels (between 3% and 1%, depending on the method employed). As discussed above, all multivariate and univariate analyses with regard to the scores measured by using the PC method indicate a significant association between non-manufacturing companies and the extent to which Greek companies comply with IFRS mandatory disclosures.⁹⁴ However, such an association is not supported by the results related to the compliance scores as these have been measured with Cooke's method.

Accordingly, being supported only by the results based on the one method for measuring compliance, it is concluded that there is no clear evidence that industry

⁹⁴ In fact, this variable appears to have larger weight in the multivariate analyses (as indicated by the size of the coefficients) from the earnings comparability index.

type is associated with companies' levels of mandatory disclosures. Neither the finding with reference to the PC method nor the corresponding one with regard to Cooke's method are considered as robust for making generalisations and drawing conclusions.

4.7.7.2 Methodological considerations for future research

This section draws upon the implications deriving from the simultaneous use of the PC method and Cooke's method in this study. The findings of this research should be of particular interest to researchers aiming to conduct studies on compliance with IFRS mandatory disclosure requirements. They should also be of particular interest to practitioners reading studies reporting compliance with IFRS mandatory disclosure requirements.

This study suggests that, when researchers include in their research instrument standards with a great range of required items, the PC method may produce less misleading results. In fact, if compliance with all IFRS is examined (as is the case in the present study), the dichotomous approach produces significantly higher compliance scores. This may provide a misleading perception of the extent to which companies are compliant with the disclosure requirements of accounting standards.

Additionally, the different findings with regard to industry type indicate that the corporate characteristics being significantly associated with companies' mandatory disclosures, when compliance is measured with the PC method, are different from those that appear to be significantly associated with companies' mandatory disclosures when Cooke's method is employed. Accordingly, the present study concludes that applying both methods simultaneously provides more informative and robust findings.

If, however, the emphasis of a research is on compliance with each disclosure item, irrespective of their grouping in accounting standards, Cooke's dichotomous approach may be more appropriate. This would be the case, for example, when examining compliance with voluntary disclosures. In that case the researcher

exercises more judgement on what should be included in the disclosure checklist and accordingly each item should be considered independently.

However, if the research instrument consists of items belonging to different ‘groupings’ of information (e.g. financial information and disclosures related to corporate social responsibility), researchers may need to make explicit whether or not they treat each item in the index or each ‘grouping’ equally.

Additionally, the findings of the present study, as well as those of Street and Gray (2001), raise questions about the findings of prior studies examining compliance with IAS/IFRS mandatory disclosures and employing only one method (see section 4.4.2). More specifically: would the adoption of the PC method have led to significantly different compliance scores in these studies? And, would the corporate characteristics previously identified as being correlated with mandatory compliance be the same?

The results of the present study suggest that: the answer to the first question is ‘possibly yes’ i.e. the adoption of the PC method is likely to have led to significantly different compliance scores in previous studies. Furthermore, the answer to the second question is ‘possibly no’, i.e. the corporate characteristics identified in previous studies as being correlated with mandatory compliance may not be the same under the PC method. This might also be relevant to other studies that have examined compliance with national accounting standards in countries where the disclosure requirements are to be found in separate ‘standards’/categories and that employed only one method (see section 4.4.1).

4.8 Limitations

The findings of the present part of the study are subject to several limitations that should be taken into consideration.

A major strength of the study is that the results are time specific, i.e. focusing on the first year of mandatory implementation of IFRS. However, this might also present a

limitation. It may give a misleading perception about companies' compliance behaviour. Prior research indicates that companies' disclosures increase overtime (e.g. Hassan et al., 2006; Peng et al., 2008). Thus, the relatively low levels of disclosures identified might be an outcome of preparers' low familiarity with the disclosure requirements of the new standards. Consequently compliance levels may improve in the future.

Additionally, the findings of the present research suggest that the impacts reported in companies' reconciliation statements with regard to shareholders' equity and net income are associated with compliance levels in 2005. However, in the years to follow companies will not have to produce reconciliation statements and thus these explanatory factors will not be testable.

A further limitation of the study is that it may suffer from omitted variables. More specifically, the corporate characteristics employed were collected from accessible and reliable sources. It is shown that they explain at 39% (PC method) or 35% (Cooke's method) the variation in companies' levels of compliance with mandatory disclosures. Yet, other variables could shed more light on the corporate characteristics associated with mandatory disclosures. Some examples include the following but are not exhaustive: listing status, ownership concentration, management compensation and other corporate governance characteristics. Non accessibility to this data did not allow for their examination in this study.

The measurement of the characteristics employed may also be subject to limitations. For example, in order for the impact on 2004 shareholders' equity to be testable, gearing was defined as total debt to total assets. Arguably, this surrogate may not be as appropriate as total debt to shareholders' equity could be as a proxy for agency costs.

Finally, although the necessary procedures and specific criteria were followed, measuring compliance with mandatory disclosure requirements always entails a degree of subjectivity. This may hinder replication of the study and comparability of the present findings with those reported in other studies.

4.9 Conclusions

This part of the study provides answers to two of the six research questions of this thesis, namely Q2 and Q3. The study builds on and contributes to literature examining compliance with national accounting standards and/or IAS/IFRS. It contributes to this literature in the following three ways. *First*, it adds a large scale academic study examining compliance with all IFRS mandatory disclosures after 2005 in the EU. *Second*, it provides evidence regarding the implications of the use of different methods for measuring compliance with mandatory disclosures. *Third*, it provides evidence regarding the explanatory factors of compliance levels with IFRS mandatory disclosures, during the first year of IFRS implementation.

With regard to Q2, the findings of the present study illustrate a relatively low average level of compliance with IFRS mandatory disclosures in 2005 by Greek listed companies. This approximates to 80% (actual levels depend on the method employed for measuring compliance). It is also indicative that there is considerable variation in the compliance scores identified: standard deviations are 10% or 8%, depending on the method employed for measuring compliance. These compliance levels, which may be considered low for a developed market, reflect on the lenient approach of the regulator regarding compliance with IFRS during the initial period of their implementation.

Further analyses, on a standard by standard basis, indicate that standards that introduced new measurement and/or recognition requirements compared to Greek GAAP, exhibit very low average levels of compliance. They also exhibit significantly high variability of compliance scores. Similar is the case for the standards require disclosures that involve high proprietary costs. Additionally, there were instances where companies did not provide any of the information required by specific standards.

Overall, the relatively high non-compliance levels identified confirm the concerns expressed in the literature regarding the role that enforcement mechanisms play in the achievement of a successful level of comparability across jurisdictions that adopt

IFRS (e.g. Ball, 2006; Nobes, 2006; Weetman, 2006; Giner and Rees, 2005; Schipper, 2005). In fact, the findings of the present study are in favour of the argument raised by Nobes and Parker (2008: 195) that ‘weak legislation, lack of resources and ineffective audit profession in some EU countries make compliance with IFRS in practice voluntary’.

As far as Q3 is concerned, the present study provides strong evidence that companies having the following characteristics comply most with IFRS mandatory disclosures in 2005: those having a ‘Big 4’ auditor; those exhibited more positive changes in their restated IFRS 2004 net profit figure; and those exhibited more negative changes in their restated IFRS 2004 shareholders’ equity figure. It is also shown that larger companies exhibit higher compliance levels. However, this association between size and compliance levels is found to be significant only in the univariate analyses.

With regard to the two restated measures, as discussed above, there have been consistent findings of earnings management by Greek listed companies. The areas of creative accounting practices followed under Greek GAAP were expected to be curtailed with the introduction of IFRS. Accordingly, the latter was expected to cause a significant impact on companies’ financial statements. The findings of chapter three indicate that implementation of IFRS *inter alia* did indeed have a significant impact on the financial reported position and performance of Greek listed companies. In many instances this significant impact appears to be material. The findings of the present chapter indicate that such a significant change, in companies’ restated measures, has acted as a driving factor for companies’ compliance with IFRS overall mandatory disclosure requirements in 2005. On that basis, the results of this study indicate that the compliance risks that managers bear are heavily dependent on the impact caused on their companies’ financial position and performance, as a result of the adoption of IFRS.

Propositions of agency and signalling theories can provide the basis for interpreting these findings. With reference to agency theory, company managers may well be under pressure to ‘communicate’ and explain why their financial position appears to

be worse under the higher quality accounting standards (i.e. IFRS) which are believed to reflect companies' assets and liabilities more accurately. They would also be under pressure to 'communicate' the reasons for such an improvement in companies' restated profitability. This would pre-empt allegation that such a significant change is due to fraudulent accounting practices (i.e. 'transitional big bath') leading to misleading perceptions about companies' profitability levels.

As far as signalling theory is concerned, this would suggest that management provides extended levels of compliance to 'communicate' that previous year's performance was low because Greek GAAP was of poor quality. Accordingly, low profitability was not because of their inefficiency because the previous accounting regime produced conservative reported performance. In this way, the managers of these companies try to 'screen' their companies from those remaining (i.e. the majority) which faced a negative change. Finally, in line with the premises of political costs theory, a significantly positive change in profitability could well be interpreted as companies intentionally reporting lower profits under Greek GAAP so as not to attract the public eye. Accordingly, companies facing a positive change in profitability might be more concerned that this change may trigger political action with reference to past performance and thus provide higher compliance levels to avoid political action.

As far as audit firm size is concerned, these findings support the argument that large and international audit companies may have greater competence and expertise on IFRS (cf. Dumontier and Raffournier, 1998), resulting in higher levels of compliance. They may also suggest that larger audit firms conduct higher audits in order to avoid jeopardising their reputation. Considering the particular context of Greece, higher earnings management as well as lower audit effort are well documented for companies with small auditors. Thus, employing a 'Big 4' audit firm acts as a monitoring mechanism and satisfies the need for transparency and better quality financial statements. This leads to a reduction of agency costs.

Additionally, managers may also intentionally employ a ‘Big 4’ audit firm as a signal of high accounting quality. This would allow them to ‘screen’ their companies from those employing a small audit firm which are associated with higher earnings management as well as lower audit effort. At the same time, employing a ‘Big 4’ may indeed result in higher compliance with mandatory disclosures (as a result of the auditors’ expertise).

Finally, from a methodological point of view, the findings of this study provide strong evidence that using only one method for measuring compliance with mandatory disclosures may produce misleading perception about the extent to which companies comply with the standards’ requirements. Beyond this, using only one method may also have implications with regard to the explanatory factors that appear to be significantly associated with the levels of compliance identified. Accordingly, this study suggests simultaneous use of both the commonly used dichotomous approach and the PC method as they were employed in this study.

Chapter 5 - Value Relevance of Accounting and ‘Other Information’

5.1 Introduction

This chapter provides answers to research questions Q4, Q5 and Q6. More specifically, it provides analysis exploring: any change in value relevance of accounting information after the adoption of IFRS in Greece (Q4); the incremental value relevance of individual adjustments to 2004 shareholders’ equity of Greek companies (Q5); and the valuation implications of compliance with IFRS mandatory disclosures (Q6). The analysis regarding Q4 is disaggregated across the partitions of small and large companies and of companies having ‘Big 4’ and non-‘Big 4’ auditors. The analysis regarding Q5 is disaggregated across the partition of small and large companies only.⁹⁵ The analysis regarding Q6 is disaggregated across the partition of high and low compliance companies.

The remainder of the chapter is organised as follows: Section 5.2 discusses the concept of accounting quality as expression of value relevance and the applicability of the latter for the purposes of the present study. Section 5.3 discusses the Ohlson (1995) Model (OM). Section 5.4 reviews the relevant literature regarding the main research questions and develops the relevant testable hypotheses. Section 5.5 describes the research design for testing these hypotheses. Section 5.6 discusses the research findings against the background of the research hypotheses, the prior literature and the context of the Greek accounting environment provided in chapter 2. Section 5.7 discusses the limitations of this part of the research and section 5.8 forms the concluding remarks.

5.2 Accounting Quality and Value Relevance

A number in companies’ financial statements is deemed to be ‘value relevant’ if it is significantly related to its market value (Beaver, 2002) i.e. it ‘maps’ onto the

⁹⁵ The analysis with regard to companies with ‘Big 4’ auditors cannot be examined because of the relatively small number of observations in this sub-sample (see 5.5.4 for details).

company’s market value nontrivially. Lo and Lys (2000b: 6) illustrate that this can be generally described by the following equation:

$$P_{jt} = g(I_{jt}) + \eta_{jt} \quad (\text{Eq. 5.1})$$

where P_{jt} stands for the share price of a company, I_{jt} is the information item and η_{jt} is the mean zero disturbance term. I_{jt} is value relevant if and only if g is statistically significantly different from zero.

Beaver (2002) highlights two distinctive characteristics of value relevance research. *First*, compared to other types of capital market research, it demands more comprehensive knowledge of accounting institutions, accounting standards, and the specific characteristics which underlie the reported figures. This gives a comparative advantage to accounting researchers to examine relations between market values and book values. *Second*, the timing of information is not of primary importance as is in the case of event studies. *Levels* studies provide the opportunity to examine the drivers of (market) value that may be reflected in price at a point of time as a function of a set of accounting items.

Holthausen and Watts (2001) explain that the greater the R^2 in the above equation, the more value-relevant the accounting number is assumed to be. Prior literature suggests that the higher the association (i.e. the higher the value relevance), the higher the accounting quality that is reflected (Barth et al., 2008). This argument is based on the rationale that higher quality results better reflect a company’s economics (Barth et al., 2001). This is achieved if the accounting standards applied ‘require recognition of amounts that are intended to faithfully represent a firm’s underlying economics’ (Barth et al., 2008: 477). Additionally, when the accounting standards applied minimise opportunistic discretion, they result in higher accounting quality and, in turn, higher value relevance (Ewert and Wagenhofer, 2005).

Because of the characteristics of value relevance research and its usefulness for, partly, determining accounting quality, Barth et al. (2001: 77) argue that value relevance research *inter alia* ‘provides insights into questions of interest to standard

setters.’ This is particularly relevant to this study because mandatory implementation of IFRS in Europe has meant to increase accounting comparability among EU companies and accounting quality in general. This was expected as IFRS are considered to be high quality standards. More specifically, IFRS expected to curtail the ‘discretion afforded managers to manipulate provisions, create hidden reserves, ‘smooth’ earnings and hide economic losses from public view’ (Ball, 2006: 9).

On that basis, the expectations for higher accounting quality in Europe and the above features of value relevance research suggest that value relevance provides an appropriate framework for the examination of the research objectives of this study.⁹⁶

Although value relevance research has a long history (Beaver, 2002 with reference to Miller and Modigliani, 1966), it became very popular in the early 1990s (Easton et al., 1993). A key factor for the advancement of value relevance research is the development of Ohlson’s (1995) model, which is employed in this study. Its main features are discussed below.

5.3 Theoretical Framework - Residual Income Valuation (RIV) and The Ohlson (1995) Model (OM)

Lo and Lys (2000a) suggest that one of the main contributions of the OM to valuation theory is that the model provides a testable hypothesis for accounting and non-accounting information. This is because the OM can be disaggregated across two components: the predecessor of the OM model (the RIV) and Ohlson’s (1995) ‘linear information dynamics’, represented by the variable v , meaning ‘other information’ not yet captured by the accounting figures (Hand, 2001; Lo and Lys, 2000a).

More specifically, RIV is based on the fundamental hypothesis that asset prices represent the present value of all future dividends (PVED):

⁹⁶ Other researchers have examined other aspects of accounting quality including market liquidity, cost of equity, Tobin’s Q, timely loss recognition, and earnings management (see Platikanova and Nobes, 2006; Daske et al., 2008; Christensen et al., 2008; Barth et al., 2008; Capkun et al., 2008; and Jeanjean and Stolowy, 2008).

$$P_t = \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t[d_{t+\tau}] \quad (\text{Eq. 5.2})$$

where P_t is market price of equity at date t , d_t is net dividends paid at date t , R_f is the risk free rate plus one and E_t is the expectation operator based on the information set at date t . To derive RIV from PVED, two additional assumptions are made. First, an ‘accounting system’ that satisfies a clean surplus relation (CSR) is assumed:

$$b_t = b_{t-1} + x_t - d_t \quad (\text{Eq. 5.3})$$

where, b_t represents the book value of equity at date t , and x_t denotes the earnings in period ending at date t .⁹⁷ However, CSR does not require that the accounting system be of the form that we typically imagine (Lo and Lys, 2000a). Any two variables satisfying CSR will do. That is, CSR is merely used to substitute x and b for d in PVED (Eq. 5.2). Second, a regularity condition is imposed, namely that the book value of equity grows at a rate less than R_f .

These two assumptions are used to restate PVED as a function of book value and discounted expected abnormal earnings (i.e. RIV):

$$P_t = b_t + \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t[x_{t+\tau}^a] \quad (\text{Eq. 5.4})$$

where $x_t^a = x_t - r * b_{t-1}$. Given the two assumptions, PVED and RIV are mathematically equivalent.

Here lies one of the contributions of Ohlson (1995) to the accounting literature. Equation 5.4 was originally reported in the late 1930s (Lundholm (1995) and Lo and Lys (2000a) with reference to Preinreich (1938)) but has been largely ignored. According to Lundholm (1995: 751) ‘its revival constitutes a major contribution to modern financial accounting’. Lo and Lys (2000a: 354) add that ‘Ohlson (1995) revived the use of RIV in valuation research at a time when the approach could be

⁹⁷ In order this assumption to hold, all gains and losses affecting book value of equity are also included in earnings (Lee, 1999).

more readily implemented’. This was because of the availability of data and technological resources.

In addition, Ohlson’s (1995) main contribution arises from the following: As explained by Hand (2001: 121), assuming that markets are semi-strong efficient so that P_t fully reflects Φ_t^m (i.e. all publicly available information at t (Fama, 1976)) one can distinguish Φ_t^m into two distinct and additive subsets: all publicly available financial accounting information $F\Phi_t^m$ and everything else $NF\Phi_t^m$. Ohlson (1995) models components of $F\Phi_t^m$ and $NF\Phi_t^m$ as predictive of future abnormal earnings through the following linear information dynamics:

$$\chi_{t+1}^a = \omega\chi_t^a + v_t + \varepsilon_{1,t+1} \quad (\text{Eq. 5.5})$$

and

$$v_{t+1} = \gamma v_t + \varepsilon_{2,t+1} \quad (\text{Eq. 5.6})$$

where, as discussed previously, ‘ v should be thought of as summarising value relevant events that have yet to have an impact on the financial statements’ (Ohlson, 1995: 668), i.e. the subset of $NF\Phi_t^m$ that helps predict future abnormal earnings (Hand, 2001).

Considering these two equations, RIV (Eq. 5.4) then is restated as:

$$P_{jt} = a_0 + b_1 B_{jt} + b_2 X_{jt} + b_3 v_{jt} + \varepsilon_{jt} \quad (\text{Eq. 5.7})$$

where P_{jt} stands for the value of a company, B_{jt} is the book value of shareholders’ equity, X_{jt} net profit and v_{jt} is ‘other information’ being available to the market participants not yet captured by accounting, and ε_{jt} is the mean zero disturbance term. Lundholm (1995) explains that the difference between v_{jt} and ε_{jt} is that the former is partially forecastable but the latter is completely nonforecastable. Although this

assumption is ‘by far the most controversial’ (ibid: 751) it allows for a simultaneous testable hypothesis for accounting and non-accounting information.

Ohlson (1995) and Lundholm (1995) do stress that the original empirical implications of OM depend critically on the third and final assumption regarding the abnormal earnings information dynamics (Dechow et al., 1999). However, many researchers who employed the model during the first years after its publication ignored the term v (e.g. Collins et al., 1997; Collins et al., 1999; Francis and Schipper, 1999), with only few exceptions (e.g. Amir and Lev 1996; Ittner and Larcker 1998; Myers 1999) (Hand, 2001).

The same criticism had been raised by Ohlson (2001) and by Lo and Lys (2000a). Ohlson (2001: 112) argued that ‘equating v to zero may be of analytical interest, but it severely reduces the model's empirical content’ (Ohlson, 2001). It effectively means that the outcome is little more than tests or implementations of RIV (Lo and Lys, 2000a). This is why Lo and Lys (2000a: 365) argued that ‘most studies [at that time] implement the model incorrectly’. Apparently, to a large extent, this is the case until today (e.g. Hung and Subramanyam, 2007; Barth et al., 2008).

The main argument for excluding the v term is that it is not observable. Pursuing the model by omitting v is based on the assumption that book value of equity and earnings are not correlated with the unobserved v . Thus, the explanatory power of Equation 5.7 can be considered as a measure of the materiality of v . Accordingly, a high level of R^2 suggests that investors use accounting information in their decisions (Sami and Zhou (2004) with reference to Eichenseher, 2000).

Lee (1999: 420) explains that care is needed when comparing Eq. 5.4 and 5.7 without v , i.e. RIV and the Ohlson model in the most commonly employed form. The former consists of the current book value of shareholders’ equity and the present value of a stream of expected future abnormal earnings. However, the independent variables of Eq. 5.7 consist of reported historical accounting numbers. Thus, Lee (1999: 420) adds that ‘several rather strong assumptions about the way past earnings and book values map into future payoffs are necessary’ to move from the one equation (5.4) to

the other (5.7). For example, all companies have identical discount rates and that ‘non-accounting information (v) is either value irrelevant or affects all firms in exactly the same way’ (ibid: 420).

However, few researchers have addressed this issue and have incorporated proxies representing ‘other information’ in their tests. These papers are discussed in detail in 5.4.2.2. The present study first implements the model in its ‘conventional’ form, in line with the relevant literature (e.g. Hung and Subramanyam, 2007; Barth et al., 2008). Then, it proceeds by using companies’ level of compliance with IFRS mandatory disclosures as a proxy for ‘other information’.

5.4 Literature Review

5.4.1 Adoption of IFRS: relative and incremental value relevance

As discussed previously, IFRS are supposed to be high quality standards. Additionally, IFRS have a more shareholder orientation than national accounting standards in several countries. On the basis of that premise, several researchers have examined the differences in the value relevance of accounting information produced under IFRS and compared to national GAAPs. It is common in the literature for researchers to conduct relative as well as incremental association studies simultaneously. Prior literature has produced inconsistent and mixed findings. Since the focus of the present research is the adoption of IFRS and accounting quality in terms of value relevance, discussion of the prior literature is classified into three broad categories: value relevance of IFRS in pre-2005 national contexts; pre and post 2005 IFRS adoption in several countries; and post-2005 on a single country level. It is indicated within the review below whether a study uses a relative and/or an incremental association research design.

5.4.1.1 Pre-2005 IAS/IFRS on a single country level

Following an incremental association research design, Harris and Muller (1999) use a sample of companies reporting under IFRS in their home countries which, because

they are also listed in the US, had to publish Form 20-F reconciliation statements. They find ‘limited evidence that reconciliations to US-GAAP, even under IAS, provide useful information to the market’ (Harris and Muller, 1999: 309) as both IAS earnings and book values of equity are value relevant.

In China, separate markets have been created for domestic and international investors. Companies are required to report to domestic investors using local Chinese accounting standards and to international investors using IFRS (Eccher and Healy, 2000). Thus, a company may produce two sets of accounts for the same financial year with a different share price to be traded in the two different markets. Looking at the relationship between cash flows and returns under the two accounting regimes, Eccher and Healy (2000: 27) find that ‘IAS financial reports do not provide material benefits to either international or domestic investors over local Chinese standards’. Lin and Chen (2005) use an incremental association research design and their findings confirm those of Eccher and Healy (2000). However, Sami and Zhou (2004) follow a different research design and find contradictory results. The authors use the OM and compare the explanatory power of the model across the two samples. They find that ‘the accounting information in the capital market where IFRS statements are produced is more value relevant’ (Sami and Zhou, 2004: 424). Using a very similar research design, Liu and Liu (2007) report similar findings.

Germany also provided a suitable setting for comparison of the value relevance of accounting information under IFRS and national accounting rules, prior to 2005. This was because a large number of companies had voluntarily adopted IFRS. Additionally, companies listed on the ‘Neuer Markt’ (a segment of the Frankfurt Stock Exchange at that time) were *required* to publish financial statements prepared in accordance with either IFRS or US GAAP (Beckman et al., 2007). Prior studies which examine the differences in the value relevance between IFRS and HGB⁹⁸ include Leuz (2003), Bartov et al. (2005), Schiebel (2007), Beckman et al. (2007), Jermakowicz et al. (2007) and Hung and Subramanyam (2007).

⁹⁸ *Handelsgesetzbuch* – the German commercial code.

Hung and Subramanyam (2007) use both a relative as well as an incremental association research design. They *inter alia* find that ‘(2) book value (net income) plays a more (less) important valuation role under IAS than under HGB, although there is no evidence suggesting that IAS has improved the relative value relevance of book value and net income; (3) the IAS adjustments to book value are value relevant, while the adjustments to net income are value irrelevant’ (Hung and Subramanyam, 2007: 652). No improvement in the relative value relevance of book value of shareholders’ equity under IFRS has also been reported by Schiebel (2007), who finds that equity book values under German GAAP revealed higher value relevance.

As far as the relative association of earnings is concerned, Bartov et al. (2005) find higher value relevance of IFRS earnings over those prepared under German GAAP.⁹⁹ Similar results are reported by Jermakowicz et al. (2007). Examining the incremental value relevance of individual adjustments reported in the reconciliation statements, Beckman et al. (2007) do find that a number of individual adjustments were incrementally value relevant. One could argue that the contradictory and mixed findings with regard to Germany may derive from the fact that, at that time, IFRS were adopted on a voluntary basis by some of the companies under examination. As discussed in 4.4.2, voluntary adoption was associated with a high incidence of non-compliance or incomplete compliance (cf. Cairns, 2001 and Street and Gray, 2001) which may have negatively affected investors’ perceptions of the accounting measures produced under IFRS.

In a different setting, Niskanen et al. (2000) examine the reconciliations, between 1984 and 1992, of 18 Finnish companies which disclosed both local GAAP and IFRS earnings. They find that the bottom line reconciliation to IFRS is not significant whilst individual components of the aggregate reconciliation relating to untaxed reserves and consolidation differences are value relevant.

⁹⁹ The authors compare also the difference in the value relevance between IFRS and US GAAP earnings and conclude there is no significant difference.

5.4.1.2 Pre-and post-2005 IFRS adoption in several countries

Barth et al. (2008) use a sample of companies from 21 different countries. These companies had adopted IFRS voluntarily between 1994 and 2003. Barth et al. find *inter alia* that companies reporting under IFRS exhibit higher value relevance than non-adopters of IFRS in the same country. Capkun et al. (2008) use companies from nine EU countries after mandatory IFRS implementation. They find that the bottom line adjustments of IFRS earnings are incrementally value relevant, but not those on book value of equity. Clarkson et al. (2008) use companies from 15 countries (including Australia) and explore potential changes in the relative value relevance of accounting information, in the pre – and post IFRS period. They report minor changes to value relevance for code law countries and a decrease in common law countries. Horton and Serafeim (2007) find that UK, French and Italian companies’ earnings reconciliations on transition to mandatory IFRS implementation are incrementally value relevant, but not those of Spanish companies.

5.4.1.3 2005 Mandatory IFRS adoption on a single country level

Callao et al. (2007) interpret the difference between book value of shareholders equity and market values as value relevance. They examine the book-to-market ratio of Spanish companies before and after the adoption of IFRS. They report no improvement in Spanish reporting quality after IFRS adoption. Although using a different research design, this finding is in line with Horton and Serafeim (2007) with reference to Spain (see above).

Paananen (2008) uses 4 years’ data (2003-2006) to examine changes in the quality of financial reporting in Sweden after IFRS mandatory implementation. She measures financial reporting quality as smoothing of earnings, timely loss recognition, and relative value relevance. She documents a decrease in the latter.

Horton and Serafeim (2009) explore the value relevance of IFRS relative to UK GAAP using the IFRS reconciliation statements, reported separately from other announcements. *Inter alia*, they report that ‘earnings reconciliation adjustment is

value relevant and has incremental price relevance over and above the UK GAAP numbers’ (Horton and Serafeim, 2009: 36), but this is not confirmed for the shareholders’ equity reconciliation adjustment. (A corresponding finding is reported by Capkun et al. (2008) with regard to the UK.) Furthermore, the authors examine the value relevance of individual adjustments reported within the reconciliation statements. Their findings illustrate that, with reference to the price per share model tested, adjustments to earnings related to leases, tax and goodwill are incrementally value relevant.

Schadewitz and Markku (2007) examine the incremental value relevance of the bottom line reconciliation adjustments on transition to IFRS in Finland. In line with prior research, they find that IFRS earnings and net assets’ reconciliation adjustments are value relevant. However, they report a significant and negative coefficient with regard to shareholders’ equity reconciliation adjustment. This finding indicates that the market reverses the reconciliation adjustments.

The study of Bellas et al. (2008) is the only one which examines the issue of value relevance of accounting information after the adoption of IFRS in Greece. They find book value of equity to be more value relevant under IFRS, but this is not the case for profit after tax. Additionally, they find that the reconciliation of bottom line adjustments to net profit appear to be incrementally value relevant, but not those with reference to shareholders’ equity.

The present study is different from that of Bellas et al. (2008). The latter use 83 companies compared to 153 companies used here. Although Bellas et al. (2008) use deflated variables as a control for heteroscedasticity, they do not employ any further test as suggested in the literature. The present study controls for heteroskedasticity and conducts further sensitivity tests by using different deflators. Bellas et al. (2008) do not account for outliers whereas this issue is considered here (5.5.2).

Additionally, although Bellas et al. (2008) follow Hung and Subramanyam’s (2007) research design (which is different from that applied here), they do not perform any of the robustness tests employed by Hung and Subramanyam (2007). This is

important because the research design they use might produce biased inferences as it does not account for the effects on stock prices resulting from the adoption of IFRS (Hung and Subramanyam (2007), with reference to Karamanou and Nishiotis, 2005).¹⁰⁰ Furthermore, Bellas et al. (2008) do not examine the incremental value relevance of the individual adjustments reported in the reconciliation statements. The present study does this. Additionally, the authors provide little discussion on the particular features of Greece. Neither Bellas et al. (2008) do examine their findings across the partitions of large versus small firms and firms with ‘Big 4’ and non-‘Big 4’ auditors as the present study does. As they use only 83 companies their sample may be biased by these factors. In fact, they remain silent on the characteristics of the companies used in these respects. Finally, the authors do not control for selection bias as suggested by the literature (done in the present study).

5.4.1.4 Pre-and post-2005 relative value relevance: Hypotheses development

Lower value relevance has been reported for debt-oriented and tax influenced accounting systems (Ali and Hwang, 2000; King and Langli, 1998), including those of continental European countries that exhibit these features (in contrast to Anglo-Saxon countries). As discussed above, the Greek accounting framework has many features in common with the other Continental European countries and thus the adoption of IFRS was expected to provide more ‘decision-useful’ financial statements.

Barth et al. (2008) (with reference to Ashbaugh and Pincus, 2001) argue that IFRS are more restrictive than national accounting standards in limiting managers’ discretion in determining accounting results. This is in line with Ball (2006: 9) who argues that implementation of IFRS is expected to curtail the ‘discretion afforded managers to manipulate provisions, create hidden reserves, ‘smooth’ earnings and hide economic losses from public view’. Additionally, as discussed above, IFRS are

¹⁰⁰ The present research has also followed Hung and Subramanyam’s (2007) research design and the corresponding robustness checks. The results between the two sets of tests are indeed different. Therefore this study does not follow the research design adopted by Hung and Subramanyam, (2007)). Accordingly, one of the contributions of this study lies in the fact that current prices are compared with current information for both years under examination in order to avoid mispricing effects.

also supposed to increase transparency by mandating higher levels of disclosures (cf. Leuz and Verrecchia, 2000; Daske and Gebhardt, 2006).

In line with these propositions and with regard to Greece in particular, Polychroniadis (2002) argues that reporting quality would improve under IFRS. This would be the case because areas of creative accounting, with respect to overstating shareholders’ equity, would be eliminated under the new regime. As discussed in chapter 3, the adoption of seven standards did indeed caused significantly negative impact on shareholders’ equity, reflecting the curtailment of creative accounting practices previously identified by other researchers (e.g. Spathis, 2002; Spathis et al., 2002; Baralexis, 2004; Caramanis and Spathis, 2006). Additionally, the level of mandatory disclosures is lower under Greek GAAP and thus Greek GAAP leads to less transparent financial statements.

Taking into consideration a) the fact that IFRS consider investors as the main users of financial statements (IASB Framework, paragraph 10) and are not debt and tax oriented as is Greek GAAP; and b) the anticipation of improved financial reporting under IFRS as well as the evidence reported in chapter 3, it is expected that the change from Greek GAAP to IFRS should increase the accounting quality in Greece (i.e. relative value relevance). In particular, it was expected that the curtailment of creative accounting practices relating to balance sheet and smoothing of earnings, as well as the focus of IFRS on more timely recognition of assets and liabilities, would result in an upward valuation shift in the coefficients of both book value of equity and net income of Greek companies. Therefore, the following research hypotheses regarding the adoption of IFRS and value relevance of accounting information are stated as follows:

H5.1: The value relevance of book value of equity and net income increase after the switch from Greek GAAP to IFRS.

H5.2: The relative value relevance of accounting information (i.e. R^2) increases after the switch from Greek GAAP to IFRS.

However, there are also several social, political and institutional factors of relevance which may affect value relevance, and may do so to a greater extent than accounting standards (Damant, 2006; Ball, 2006). Additionally, ‘the inherent flexibility in principles-based standards could provide greater opportunity for firms to manage earnings’ (Barth et al., 2008: 468). If investors do believe that even under IFRS Greek companies would apply creative accounting practices to the extent they did before (but perhaps in different areas), the hypotheses may not hold.¹⁰¹

5.4.1.5 Firm size and audit quality¹⁰²

Apart from the accounting regime (IFRS or Greek GAAP), the respective value relevance of accounting information can be influenced by several firm specific factors which may affect the perceived quality of this information. Therefore, the influence of firm size and audit quality is explored, as proxies for information quality, by providing separate analyses with reference to these sub-samples. The analyses across these sub-samples will indicate whether the changes in the value relevance hypothesised above is driven by changes in the value relevance of companies with specific characteristics.

Previous research has indicated differences in value relevance across firm size (Bartov et al., 2005; Collins et al., 1997; Hayn, 1995). As discussed previously, small firms are not followed by investment analysts and the media to the same extent as large firms (cf. Barry and Brown, 1986; Schipper, 1991; Hussain, 2000). This leads to small firms not being followed by large institutional and/or foreign investors (due to lack of available information). Instead, small firms are followed mostly by small individual investors who ‘are less likely than investment professionals to be able to anticipate financial statement information from other sources’ (Ball, 2006: 11).

¹⁰¹ One of the interviewees did suggest that Greek companies would identify ways of applying creative accounting practices under IFRS as well. However, his personal opinion was that, it would take a while for companies to become familiar with all the options offered under IFRS and thus creative accounting might be minimal during the first few years following IFRS implementation.

¹⁰² The development of hypotheses regarding the partition of companies with ‘Big 4’ or non-‘Big 4’ auditors should be read with the development of hypotheses in 3.4.3 and 4.5.3.1 which also examine the influence of audit firm size in other aspects.

Accordingly, the value of a small firm may not incorporate all the information available.

Additionally, previous research has shown that the weight placed on book value of equity and net income is not consistent across firms (Collins et al., 1997). The weights depend on the explanatory power of current earnings as a good proxy for future earnings and/or on the potential liquidation of a firm. These two aspects can be particularly relevant to small firms (Collins et al., 1997), who tend to report losses more often than large firms (Hayn, 1995). Furthermore, smaller firms can be characterised as less mature, having high growth potential and being less diversified. This increases the ‘noise’ in current earnings and their values are ‘driven by their future earnings growth potential (i.e. abnormal earnings)’ (Collins et al., 1997: 44). Consistent with Ohlson (1995), this leads to increased importance of the book value of equity for small firms and/or increased importance of earnings for large and more mature firms (Xu et al., 2007). Studies that have documented the differential weighting of book value of equity and earnings across small and large companies include Xu et al. (2007), Collins et al. (1997) and Hayn (1995).

An interesting issue is whether the switch to IFRS modifies the small firm-large firm valuation differences. These issues are particularly relevant to the current study since the sample includes a variety of firm sizes. Additionally, foreign investors hold substantially lower percentages of shares in small firms than in large firms in Greece (2.8). It was expected that ‘the financial statements of many small and medium size listed companies will [would] reveal large and unfavourable surprises on transition to IFRS’ (Kontoyannis, 2005: 26 - translation). Although in a different setting, Goodwin and Ahmed (2006) do document different impacts across companies with different size regarding the transition to Australian equivalents to IFRS.

Accordingly, different perceptions of the value relevance of accounting information are expected for small firms and for large firms after IFRS adoption. More specifically, the investor focus of IFRS should further enhance the value relevance of small firms’ financial statements more than large companies. Drawing on finance

literature (e.g. Fama and French, 1993), the median value of the 2006 market capitalisation is used as a benchmark for distinguishing small vs. large firms.¹⁰³ Thus, the following hypotheses are developed.

H5.3: The value relevance of book value of equity and net income increase more for small firms, after the switch from Greek GAAP to IFRS.

H5.4: The relative value relevance of accounting information (i.e. R^2) increases more for small firms, after the switch from Greek GAAP to IFRS.

Hussainey (2009) finds that investors are able to better anticipate future earnings when companies have a ‘Big 4’ auditor. Similar results are also reported by Lee et al. (2007). Dang (2004) documents that the value relevance of companies facing audit failures is lower, arguing that market participants are able to assess audit quality *ex ante*. Finally, Behn et al. (2008: 327) show that ‘analysts’ earnings forecast accuracy is higher and the forecast dispersion is smaller’ for companies audited by large audit firms.

Based on the above and the prior findings regarding earnings management and the type of auditor in Greece (Caramanis and Lennox, 2008) (see 3.4.3 for detailed analysis), it is assumed that the presence of a ‘Big 4’ auditor reflects higher accounting quality (i.e. more value relevant accounting figures) under any set of accounting standards. As suggested in the previous chapter, Greek managers may also intentionally employ a ‘Big 4’ audit firm as a signal of high accounting quality. Accordingly, reporting quality (i.e. relative value relevance) may not change when companies (with a ‘Big 4’ auditor) move from national GAAP to IFRS, or any increase should not be as significant as for companies with a non-‘Big 4’ auditor. On the other hand, an increase of the relative value relevance of accounting information is expected for the remaining companies, as the implementation of the new accounting standards should produce more relevant accounting information (i.e. of higher quality). On that basis:

¹⁰³ Bartov et al. (2005) also partitioned companies across large versus small when looking at the relative association of earnings reported under German GAAP compared to those reported under IFRS or US GAAP.

H5.5: The value relevance of book value of equity and net income increase more for companies with non-‘Big 4’ auditors, after the switch from Greek GAAP to IFRS.

H5.6: The relative value relevance of accounting information (i.e. R^2) increases more for companies with non-‘Big 4’ auditors, after the switch from Greek GAAP to IFRS.

5.4.1.6 Incremental value relevance of reconciliation adjustments: Hypotheses development

As discussed above, the first IFRS financial statements published in 2005 incorporated a set of reconciliation statements detailing the changes in the reported financial position (shareholders’ equity) and performance (net profit) in the 2004 financial statements under Greek GAAP and under IFRS. Additionally, the restated comparative figures thus derived show what the 2004 financial statements would have been if they had been prepared in accordance with IFRS rather than Greek GAAP.

Because of the substantial differences between IFRS and Greek GAAP the impact revealed within these statements was expected to be significant. Indeed, a statistically significant impact on equity and net income was identified and a surprisingly large number of individual companies were affected materially (3.7).

Considering this significant impact, it is expected that these bottom line reconciliation adjustments should be incrementally value relevant. This expectation is in line with prior literature (cf. Capkun et al., 2008; Horton and Serafeim, 2007). However, as stated by Nobes,¹⁰⁴ ‘different results and financial positions are logically to be expected when a different set of GAAP is applied for the same accounting period’. Also, net reconciliation changes may be small whilst significant individual adjustments may offset each other. Therefore, the individual adjustments (rather than the bottom line net adjustments) are likely to provide better information.

¹⁰⁴ A comment made during the workshop ‘Accounting in Europe’ (Paris, September 2007).

That explanations of how and why accounting value changes provide additional information benefits is also noted in a different context by Alciatore (1993).¹⁰⁵

Therefore, the present study focuses on the individual adjustments reported within shareholders’ equity reconciliation statements (cf. Niskanen, 2000; Beckman, 2007; Horton and Serafeim, 2009).¹⁰⁶ This promises to be interesting also because specific areas of creative accounting identified by prior research (e.g. Spathis, 2002; Spathis et al., 2002; Baralexis, 2004; Caramanis and Spathis, 2006) were expected to be curtailed under IFRS (Polychroniadis, 2002). The findings of chapter 3 support this proposition. With the exception of IAS 18, which was relevant to very few companies in the present sample, the present study examines the incremental value relevance of all these standards.

Additionally, although not related to creative accounting practices, the incremental value relevance of the adjustments relating to three more standards, namely IAS 10, IAS 12 and IAS 16 is examined. This is because they affect most companies in the sample.

Accordingly, it is tested whether the information provided within the reconciliation statements in 2004 shareholders’ equity provides additional value relevance over just the 2005 book values. Similar studies in other countries have also indicated that some individual adjustments are value relevant (e.g. Niskanen, 2000; Beckman et al., 2007; Horton and Serafeim, 2009). Therefore, the following research hypothesis is stated:

H5.7: Adjustments reported within the 2004 shareholders’ equity reconciliation statements are incrementally value relevant.

¹⁰⁵ With regard to the change in the ‘standardised measure’ required by SFAS No. 69 to be disclosed by oil and gas producers for reserves.

¹⁰⁶ As discussed in sections 2.10 and 3.4.3.4, because of inconsistencies in presentation and lack of sufficient disclosures within the income statement reconciliations (confirmed also by the studies of HCMC (2006) and Grant Thornton (2006)), it was not feasible to examine the impact of individual standards with regard to net profit.

A positive relationship of these adjustments with companies’ market values is predicted since investors may perceive them as reflecting companies’ real financial position, i.e., improvements of the financial reporting quality. However, the sign of the relationship with regard to IAS 38 is difficult to predict. On the one hand, the market may indeed perceive these adjustments as curtailment of prior overstatements, i.e. as improvements, leading to a positive relationship with market values. On the other hand, investors may perceive these adjustments as unnecessary write-offs of intangible assets which would produce future economic benefits to the companies, leading to a negative relationship with market values. The latter may be particularly relevant to small companies for which high growth is expected. (Since some of the adjustments are negative, an inverse relationship between the adjustments and market values is implied above).

5.4.1.7 Incremental value relevance of reconciliation adjustments and firm size

Drawing on the previous discussion about small versus large firms and the potential difference in the respective value relevance of their accounting information, the same rationale is applied with respect to incremental value relevance of the reconciliation adjustments. Given that more weight is generally placed on book value for small firms and significant was expected on smaller companies (Kontoyannis, 2005), the following hypothesis is formulated:

H5.8: Adjustments reported within the 2004 shareholders’ equity reconciliation statements are more incrementally value relevant for small firms.

5.4.2 Value relevance of disclosures using the Ohlson (1995) Model (OM)

5.4.2.1 Valuation implications of corporate (mandatory and voluntary) disclosures

As was indicated in 1.4.5.3, there is lack of direct empirical evidence in relation to firm value and level of mandatory disclosures (Hassan et al., 2009; Kang and Pang, 2005). One of the main objectives of this thesis is to fill the gap in the literature regarding in this regard. This review illustrates that there is large amount of studies

showing that disclosures do matter for investors but these findings are heavily based on voluntary disclosures. Thus, the lack of empirical examination of the importance of mandatory disclosures is highlighted. Another issue indicated from this review is the lack of literature regarding the implications of disclosures (either mandatory or voluntary) in Greece.

The most closely related stream of literature to the present study, is that of examining companies’ level of disclosures and their relationship with share returns and earnings. First, Frazier et al. (1984) use a computerised package and conduct content analysis of MD&A disclosures of a small sample of US companies. They find that the disclosures score is associated with future earnings. Bryan (1997) also focuses on the US market and, after constructing a disclosure index based on the MD&A disclosures, he examines the ‘information content’ of companies’ disclosures. The study reports a significantly positive association between forward looking information and one-period ahead change in sales, earnings and capital expenditure.

Healy et al. (1999) use the AIMR ratings for a sample of US companies to examine the valuation implications of disclosures. They find that companies which increase disclosure levels over time experience improvement in their shares performance. In a similar vein, Gelb and Zarowin (2002) and Lundholm and Myers (2002) also use the AIMR ratings for a sample of US companies. They report that increased levels of disclosures are associated with share prices that are more informative about changes of future earnings.

In contrast, but focusing also in the US and using the AIMR ratings, Haw et al. (2002) report that share price anticipation of earnings does not vary with the informativeness of annual or quarterly reports. Douthett et al. (2003) also concentrate on the US but they examine the valuation effects of foreign companies’ disclosures. They report that the earnings response coefficient is higher for companies with higher levels of disclosures.

Several studies have examined this issue for companies outside the US with the majority focusing on the UK. Schleicher (1996) was the first to examine the level of

voluntary disclosures on the share price anticipation of earnings by using a self-constructed index. His results do not show such an association. Schleicher and Walker (1999) revisited this issue by using a small scale expansion of the sample. They document that future oriented information does inform share prices.

Hussainey et al. (2003) use a text analysis software package to automate disclosure scores. Although they report similar findings to Schleicher and Walker (1999), the authors do not find significant results when using a disclosure metric based on all types of forward-looking statements (cf. Hussainey, 2004). Schleicher et al. (2007) also find that disclosure levels affect the anticipation of future earnings. In fact, they find a different association between levels of annual report disclosures and share price anticipation of earnings between profitable and non-profitable firms. Hussainey and Walker (2009) also find that increased levels of voluntary disclosures improve share price of anticipation of earnings in the UK.

Beyond the US and the UK, Kanto and Schadewitz (2000) use a self-constructed disclosure index regarding information provided in interim reports of Finish companies. They document that this type of information is value relevant.

Shuqing et al. (2006) also use a self-constructed index looking at the levels of disclosure and returns-earnings association in Singapore. They find that companies ‘with higher voluntary disclosure levels contain more information about future performance in their current stock return’ (ibid: 501). The association is weaker, however, when: management has high ownership interests; government ownership exists; and/or if proprietary costs exist.

Although not related to predictability of earnings, Hassan et al. (2009) examine the relationship between company value and levels of voluntary and mandatory disclosures in Egypt. They use self-constructed indices and report that compliance with IAS’ mandatory disclosures is negatively related to market value. They find a positive but not significant relationship regarding voluntary disclosure.

Inferences

Several inferences can be drawn from the above studies. Companies’ disclosures are consistently reported to have significant implications for valuation purposes. However, these findings are mainly based either on voluntary, or on a mixture of voluntary and mandatory disclosures. There exists, therefore, a gap in the literature regarding the valuation implications of mandatory disclosures (Hassan et al., 2009; Bushee and Leuz, 2005; and Kang and Pang, 2005). Additionally, the above prior studies were conducted before the mandatory implementation of IFRS in the EU. This why Leuz and Wysocki (2008), call for future research that would focus on the mandatory adoption of IFRS, the aggregate changes in the quality of mandatory disclosures and the possible capital market effects. Because the majority of prior studies focused on examining the valuation effects of disclosures in the US or in the UK, Verrecchia (2001: 174) calls for empirical research on disclosures in ‘less developed capital markets than those found in the US’ (ibid: 175). This part of the thesis considers these propositions and contributes to this stream of literature.

5.4.2.2 Other information and the Ohlson (1995) Model

As discussed in 1.4.5.3 one of the contributions of the present research is that it contributes to valuation theory by implementing the OM with LID, i.e. by introducing Greek companies’ level of compliance with IFRS mandatory disclosures as a proxy for ‘other information’. This section highlights what proxies have been used in prior studies as a control for ‘other information’ in OM.

An early example of the complementarity between financial and non financial information is the study of Amir and Lev (1996). The authors examine the value relevance of accounting information of independent cellular companies in the US. They first find that ‘on a stand-alone basis, financial information (earnings, book values, and cash flows) (sic) are largely irrelevant for security valuation’ (ibid: 3). They show that these firms exhibited 4 to 6 times higher book-to-market ratios than other industrial companies indicating high growth expectations from investors, despite low profitability and cash flows. They then examine the value-relevance of

non financial indicators, such as population coverage in the companies’ areas of operation as well as penetration rate (ratio of subscribers to population size) as indicators of future success. Their results indicate that these non financial measures are highly value relevant. In fact, the coefficient for population coverage is 15.49 and for penetration rate is 5.92. Additionally, combined with non financial information, earnings do become value relevant.

Ittner and Larcker (1998) introduce customer satisfaction measures as a proxy of ‘other information’ to the OM. They examine *inter alia* ‘whether customer satisfaction measures provide information to the stock market beyond the information contained in current accounting book values’ (ibid: 2). Their analysis is focused on 138 companies in 1994 and 140 companies in 1995 for which the American Customer Satisfaction Index scores were available. Their findings show that this score was highly value relevant. (For 1994 the coefficient is 243.20 and for 1995 is 235.67.)

Myers (1999) also uses US data and compares 4 linear information models: the RIV; the Feltham and Ohlson model (1995); the Clean Surplus Effects of Conservatism; and the OM with non accounting information. Focusing on the last one, in line with prior literature, he mentions that information affecting expectations for future income is relevant for valuation and can be directly incorporated into the analysis. He introduces order backlog in the OM representing other information. However, his analysis illustrates that the proxy for other information employed does not appear to be value relevant.

Dechow et al. (1999) evaluate the empirical implications of OM by focusing on the incorporation of analysts’ forecasts as a proxy for other information. They also use annual financial statements from US companies. They find support for the information dynamics indicating that analysts’ forecasts are highly value relevant (coefficient being 5.79).

Belkaoui (1999) investigates the relationship between the degree of internationalisation and market values of US companies. More specifically, he

examines all companies included in *Forbes*’ annual ranking as the ‘Most International’ 100 American manufacturing and service firms on the basis of total foreign revenues. The degree of internationalisation is measured as either foreign revenues/total revenues (FRTR) or foreign assets/total assets (FATA). He introduces these variables to the OM model (Belkaoui runs two separate regressions) as a proxy for ‘other information’. This is a unique research design because these proxies consist of items already recognised in the financial statements. His results indicate that these variables are highly value relevant. (As an example, the coefficient for FRTR for the undeflated pooled model was 70.53.)

Similar to Amir and Lev (1996), Rajgopal et al. (2003) examine *inter alia* the value relevance of network advantages of e-commerce firms in the US. They define network advantages as the average monthly unique visitors to the companies’ virtual communities and they introduce it to the OM as a proxy for ‘other information’. They also find that their proxy is highly value relevant (coefficient being 20.46).

Wang et al. (2005) investigate the usefulness of notional and fair value derivative disclosures by commercial banks under SFAS Nos. 119 and 133 in the US. Their analysis is based on the OM and they include a ‘sales growth’ variable, employing it as other information representing future growth potential. (‘Sales growth’ is used as a control variable in this study and is not the main focus of the analysis). In both their primary and secondary tests, ‘sales growth’ is value relevant but with a very small coefficient.

A recent study, examining a very similar issue to what is examined in the present research, is that of Goncharov et al. (2006). Since 2002, company law in Germany requires listed companies to discuss their degree of conformity to the German Corporate Governance Code. The authors choose 61 large companies (listed in the DAX 30 and MDAX) for the years 2002 and 2003. They then examine whether the degree of compliance is value relevant by introducing it to the OM as a proxy for ‘other information’. The authors do find that the degree of compliance with the Code

is value relevant, with a very high coefficient (22.34), after controlling for an endogeneity bias.

Kohlbeck and Warfield (2007) examine the impact of unrecorded intangible assets on the valuation of publicly traded banks in the US. The authors use discounted cash flow techniques similar to those used by valuation experts to estimate unrecorded intangible assets (mortgage servicing rights, credit card intangible, core deposit intangible, and trust operations intangible). Their main analysis is based on the OM but they provide the results of the conventional form of the model across 4 sub-samples, based on the quartiles of the unrecorded intangible assets. As a robustness check, they introduce the unrecorded intangible assets to the model as ‘other information’. These appear to be significant (estimated coefficient being 0.347).

In his critique of the omission of v , Ohlson (2001) proposed consensus analyst forecasts as a proxy for other information. Bryan and Tiras (2007) followed this proposition and examined the influence of analyst forecast dispersion on OM valuation. Their analysis is based on a sample of US companies (excluding financial institutions and utilities and firms with negative book value). Their findings validate those of Dechow et al. (1999): consensus analyst forecasts residuals of next year’s earnings are highly value relevant.

Inferences

Drawing upon the discussion of the prior literature regarding the role of ‘other information’, the following inferences can be made. There is no significant body of literature which has explored the role of ‘other information’ in general and with data outside the US in particular. Of the 10 studies identified, only that of Goncharov et al. (2006) uses other than US data. This is perplexing because the findings of the studies discussed indicate that the proxies observable (to market participants) selected as ‘other information’ prove to be consistently highly value relevant. (The exception being the study of Myers (1999)). Thus, such consistent findings indicate that omitting v from the model leads indeed to a simplistic (Ohlson, 2001) and, arguably, ‘an incorrect’ (Lo and Lys, 2000a) implementation.

Additionally, the findings of Goncharov et al. (2006) and Belkaoui (1999) are very important for, and relevant to, the present study. The former employ a proxy which is related to information disclosed in the financial reports and to compliance with regulation (albeit in this case not accounting standards). The proxies used by Belkaoui (1999) are also observable by market participants through the notes to the financial statements, providing that companies comply with the mandatory disclosures requirements.

In summary, this review highlights that the OM with LID provides an effective framework for examining value relevant information that has not yet been captured in the financial statements. This, and the findings of Goncharov et al. (2006) in particular, as well as the lack of a direct empirical investigation of the valuation of compliance with IFRS mandatory disclosures after 2005 (see previous section), suggest that there is merit in exploring the value relevance of compliance with IFRS’ mandatory disclosures by employing the OM with LID.

5.4.2.3 Other information and the Ohlson (1995) model: Hypotheses development¹⁰⁷

As discussed previously, v should be thought of as summarising value relevant events that have yet to have an impact on the financial statements’ (Ohlson, 1995: 668), i.e. the subset of $NF\Phi_t^m$ that helps predict future abnormal earnings (Hand, 2001). The present research considers companies’ compliance with (i.e. quantity of) IFRS mandatory disclosures as a potential proxy for other information that helps predict future abnormal earnings. The rationale behind this investigation and the corresponding hypotheses tested are discussed in this section.

Notes, including those on accounting policies, comprise an integral part of a complete set of financial statements (IAS 1, paragraph 8). It could be argued that the notes to the accounts include information about accounting events have been recognised and thus this information is already incorporated in the book values of

¹⁰⁷ When reading this section you may wish to refer back to the discussions on the difference between mandatory and voluntary disclosures (4.2) and the theoretical explanations for corporate disclosures (4.3).

shareholders’ equity and net income. This may indeed be the case for some items. However, Gigler and Hemmer (1998) argue that the mandatory disclosures do not provide value relevant information if they only establish the credibility of a company’s voluntary disclosures. In Greece, the level of voluntary disclosures is low (Leventis and Weetman, 2004b) and Greek companies do not provide detailed annual reports (Vlachos, 2001). Thus, it is expected that IFRS mandatory disclosures should provide value relevant information to the market participants.

Beyond this, findings of the following studies provide further support for the argument that the quantity of mandatory disclosures is a suitable proxy for other information assisting in predicting future earnings.

Hope (2003a) explains that the level of detail of mandatory disclosures can provide insights for assessing a company’s sustainability of earnings. Hope (2003b) argues further that disclosures of accounting policies can be of help to financial analysts. Thus, he uses the CIFAR scores, but only with regard to disclosures of accounting policies, to test whether they relate to / affect forecast dispersion and forecast errors. He reports that the level of accounting policy disclosure significantly reduces forecast dispersion and forecast errors. Additionally, he reports that ‘accounting policy disclosures are incrementally useful to analysts over and above all other annual report disclosures’ (ibid: 295). Furthermore, the univariate analysis (albeit not the multivariate analysis) he carries out indicates that accounting policy disclosures are particularly helpful to analysts in environments where options between a larger set of accounting methods are available.

Hope’s (2003b) study follows the arguments of Dye (1985) that on the basis that accounting policies are chosen by a company’s manager, companies reveal information through their choice of accounting techniques. Dye (1985) refers to Ricks (1982) who suggests that LIFO-adopting firms tend to be different from FIFO firms and to Foster (1980) who illustrates that oil and gas exploration companies that use ‘successful efforts’ accounting techniques differ from their ‘full-costing’ counterparts. Thus, he concludes that the users of financial statements take into

account the procedure a company elects, as well as the outcomes of these policies, and that they make inferences about the company’s private information.

These examples (and in turn the arguments) refer to options of accounting policies within the mandatory accounting principles in the US at that time. However, they are particularly relevant to this research as IFRS also allow for a variety of options regarding the accounting policies to be followed.

Even more relevant, Hodgdon et al. (2008) measure companies’ compliance with the disclosure requirements of IFRS for the years 1999 and 2000 by using two self-constructed disclosure indices (see 4.6.2 for more details regarding the methods employed). They then examine the relationship between the levels of compliance identified and analysts’ forecast errors. They find that compliance with IFRS disclosure requirements is negatively associated with individual analysts’ earnings forecast errors.

The findings of these studies are not surprising if one considers that there are many mandatory disclosures which provide information relating to, or potentially affecting, future events (and thus future earnings). Similar arguments are raised by Dye (1990). Omission or provision of mandatory disclosures may affect investors’ perceptions about a company’s and/or its competitors’ prospects i.e. they may cause ‘real’ and/or ‘financial’ externalities (Dye, 1990).

A ‘real’ externality is created when a company’s disclosure relates to its own and/or alters other companies’ cash flows (Dye, 1990). An example is the detailed disclosure of a company’s contingent liabilities. A ‘financial’ externality is created when the disclosures of a company in one industry affect investors’ *perceptions* about the profitability of other companies in the same industry and consequently affect the latter’s market values (Dye, 1990 with reference to Foster (1981)).

Some examples of IFRS mandatory disclosures which could provide value relevant information to investors and thus have valuation implications include the following but are not exhaustive:¹⁰⁸

- Segmental reporting and the different risks faced and returns expected by different business segments (cf. Belkaoui, 1999), as required by IAS 14.
- The number and weighted average exercise prices of share options outstanding at the end of the period together with the range of exercise prices and weighted average remaining contractual life, as required by IFRS 2.
- The dividends announced to be distributed as well as information about other post balance sheet events (e.g. investments, decisions for restructuring), as required by IAS 10.
- Business combinations (those referring to post balance sheet date acquisitions relate to the requirements of IAS 10 as well), as required by IFRS 3.
- Contingent assets and contingent liabilities (cf. Dye, 1990) (This is particularly relevant here since there is evidence that accountants do not disclose contingent liabilities under Greek GAAP (Tsakumis, 2007)), as required by IAS 37.
- The amount that best represents a company’s maximum credit risk exposure at the balance sheet date, as required by IAS 32.
- Relationships between related parties, as required by IAS 24.

Many standards require disclosures regarding the assumptions used for the company to determining accounting items recognised in the financial statements. Some examples include but are not limited to the following:

- The principal actuarial assumptions used as at the balance sheet date, as required by IAS 19.

¹⁰⁸ Consistent with chapters 3 and 4, the references here are related to the standards in force in April 2006.

- The assumptions used for measuring the recoverable amount of a cash generating unit, as required by IAS 36.
- Significant terms and conditions that may affect the amount, timing and certainty of future cash flows of financial instruments, as required by IAS 32.

The provision of such assumptions enhances transparency (Pownall and Schipper, 1999) and provides the users of financial statements with information regarding how the company perceives its prospects. This subsequently affects the users’ of the financial statements perceptions regarding companies’ prospects (Hope, 2003a).

These arguments are particularly relevant to the present study if one considers the findings of the previous chapter regarding companies’ levels of compliance with the requirements of each standard separately (section 4.7.3). More specifically, there was substantial variation and, in fact, low average compliance with the standards would force companies to disclose proprietary information (e.g. IAS 36 (50%), IAS 8 (51%), IAS 17 (51%), IAS 19 (64%), IAS 37 (70%), IAS 14 (71%), IAS 40 (72%) and IFRS 3 (72%)).

To summarise, the present research synthesises the findings of the prior literature, the propositions for future research and posits a strong relationship between the level of compliance with (i.e. quantity of) IFRS mandatory disclosures and market values. To the extent that mandatory disclosures are informative about a company’s prospects levels of disclosures should be associated with market values.

This anticipation is supported by the findings of relevant prior literature: share price anticipation of earnings improves with increasing levels of disclosures (e.g. Hussainey and Walker, 2009); increased levels of disclosures (voluntary and mandatory) improve the predictability of earnings and reduce analysts’ forecasts errors (e.g. Hodgdon et al., 2008); and proxies used as ‘other information’, when employing the OM, are usually highly value relevant (e.g. Goncharov et al., 2006).

However, no attempt to predict the sign of the relationship between market value and compliance with mandatory disclosures is made. On the one hand, the findings of the

prior literature suggest positive valuation implications of increased levels of disclosures. Nevertheless, these studies mainly focus on voluntary disclosures. As argued by Bushee and Leuz (2005: 234), the implications of mandatory disclosures are ‘theoretically far from clear and heavily debated’. As discussed above, higher compliance leads to higher levels of disclosure of both proprietary and non-proprietary information and/or both good and bad ‘news’ (cf. Leuz and Wysocki, 2008; Verrecchia, 2001). Accordingly, higher compliance may have a positive impact on one company’s market value but a negative impact on another.

Further, complying with the detailed IFRS mandatory disclosures, especially during their first year of adoption, would require high direct costs for companies. Non-compliance costs would include monetary fines, market pressure and the threat of delisting from ASE. However, the latter are not expected to be high in the period under examination because there is evidence that HCMC acknowledged companies’ non-compliance with IFRS measurement and/or disclosure requirements (Avlonitis, 2007) but the imposition of strict fines was avoided because this was a transition period. This would allow managers to be more ‘flexible’ on deciding whether to disclose proprietary information (cf. Dye, 1986).

Accordingly, if the costs of compliance with mandatory disclosures were high and the non-compliance costs negligible, non-compliance companies might be better off not disclosing all the information required (cf. Hassan et al., 2009). More specifically, investors may be suspicious of a company with high compliance. Within a regime where enforcement is low, incurring high direct costs for achieving high compliance may place a company ‘at a competitive disadvantage relative to its competitors who failed to publish such mandatory details’ (Hassan et al., 2009: 85).

Thus, examining companies’ level of compliance with IFRS’ disclosure requirements and its importance for valuation purposes provides more insights regarding the valuation implications of mandatory disclosures. On that basis, the following research hypothesis is tested:

H5.9 Companies’ levels of compliance with (quantity of) IFRS mandatory disclosures are value relevant.¹⁰⁹

Further, provision of mandatory disclosures (i.e. high compliance) provides insights assumptions and accounting policies choices used to determine the recognition and measurement of accounting items. Thus, it provides more transparent financial statements (cf. Pownall and Schipper, 1999) and, in turn, greater transparency may reduce the uncertainty of companies’ economic situations, as this is reflected in the financial statements (Anctil et al. 2004; Hope, 2003a).

These arguments are particularly relevant to Greece (i.e. to the present study). As was indicated above, the literature indicates that under Greek GAAP there was a high level of earnings management (especially with regard to the balance sheet (Spathis, 2002; Spathis et al., 2002; Baralexis, 2004)). Additionally, the mandatory disclosures under Greek GAAP were minimal compared to those required by IFRS. This enabled companies to be secretive regarding the accounting policies and practices followed. However, the mandatory disclosures required by IFRS ‘could constrain some potentially harmful managerial actions’ (Hope, 2003b: 317). Thus, companies which want to signal less earnings management have the opportunity to communicate their practices in a more transparent way under IFRS. This would lead to a closer relationship between book values and market values. As noted above, according to Barth et al. (2008) the higher the value relevance of one accounting item implies higher accounting quality. On that basis, the following two hypotheses are tested:

H5.10 The relative value relevance of accounting information (i.e. R^2) is higher for companies exhibiting higher levels of compliance with IFRS mandatory disclosures.

¹⁰⁹ No attempt to test the value relevance of compliance with mandatory disclosures before and after the implementation of IFRS in Greece is made. This research hypothesis explicitly examines the value relevance of compliance with mandatory disclosures (those mandated by IFRS in this case) at a particular point of time.

H5.11 The value relevance of book value of shareholders’ equity and net income is higher for companies exhibiting higher level of compliance with IFRS mandatory disclosures.

In line with Hussainey and Walker (2009), the median value of the compliance score is used to partition the sample across companies with low and high levels of compliance.

5.5 Research Design

5.5.1 Controlling for sample selection bias¹¹⁰

As indicated in section 4.6.1, for the purposes of the present research a maximum of 175 companies could have been used, instead of the 153 currently examined. The decision not to examine 22 companies was based on the fact that either, they did not produce reconciliation statements for shareholders’ equity and/or income, or the quality of the reconciliations provided did not allow for clear identification and evaluation of the information provided therein. Thus, ignoring the non-randomness of the sample may result in potential coefficient bias in the regressions employed (Maddala, 1991).

Francis and Lennox (2009: 4) emphasise that ‘accounting researchers need to find credible and convincing exclusion restrictions’. There is an increasing tendency in the market-based accounting literature to employ a two-step procedure developed by Heckman (1979), known as the selection model (Gujarati, 2003), in order to mitigate such a potential problem. Francis and Lennox (2009: 2) ‘identify 30 studies that use selection models out of 545 empirical papers published from 2000 through 2007’ in three high quality accounting journals,¹¹¹ 20 of which were published after 2004. This process has also been employed by recent studies with similar focus of this part of the present research (e.g. Hung and Subramanyam, 2007; Jermakowicz et al., 2007; Goncharov et al., 2006; Harris and Muller, 1999).

¹¹⁰ I owe debt to an anonymous referee for considering the procedure followed here.

¹¹¹ The Accounting Review, Journal Accounting and Economics, and Journal of Accounting Research.

In step 1, the researcher estimates a probit model where the dependent variable is either 0, representing the observations excluded, or 1, representing the observations used. The independent variables are those which would be considered in the research design anyway and at least one exogenous variable known as ‘instruments’. In this type of model goodness of fit measures (pseudo R^2 , similar to R^2 of OLS regressions) are of secondary importance. ‘What matters is the signs of the regression coefficients and their statistical and/or practical significance’ (Gujarati, 2003: 606). Most important is that the estimation of this probit model results in estimation of an Inverse Mills’ Ratio (IMR). Step 2 is the estimation of the primary model of interest which also includes the IMR as a control for the effects of selection.

Francis and Lennox (2009) highlight the fact that choice of ‘instruments’ plays a crucial role for a correct implementation of the selection model. Considering that the relationship between book values and market values of the companies selected may be biased compared to the 22 not included, the present research employs a selection model in accordance with Heckman’s (1979) two stage approach.

Omission to provide or provision of very low quality reconciliation statements is identified as non-compliance with IFRS 1 disclosure requirements. Thus, based on the findings of the prior literature and those reported in the previous chapter regarding the explanatory factors of compliance with IFRS mandatory disclosures, the following selection (probit) model was employed:

$$S_{it} = a_0 + b_1 BVE_{it} + b_2 NI_{it} + b_3 Aud_{it} + b_4 Ind_{it} + b_5 Liq_{it} + b_6 Gea_{it} + b_7 EqCh_{it} + b_8 NICH_{it} + \varepsilon_{it}$$

(Eq. 5.8)

where S_{it} is the indicator variable equal to 1 for the sample firms and 0 otherwise; BVE_{it} is the book value of equity at the end of 2005, deflated by the number of shares outstanding one month after the publication of the financial statements relating to the end of 2005 (t); NI_{it} is the book value of net income at the end of 2005, deflated by the number of shares outstanding one month after the publication of the financial statements relating to 2005 (t); Aud_{it} is a dummy variable equal to 1 for companies

with a ‘Big 4’ auditor and 0 otherwise; Ind_{it} is a dummy variable equal to 1 for manufacturing companies and 0 otherwise; Liq_{it} is the ratio of current assets divided by current liabilities at the end of 2005; Gea_{it} is the ratio of total debt divided by total assets at the end of 2005; $EqCh_{it}$ is the difference between the book value of shareholders equity at the end of 2004 under Greek GAAP and the restated figures under IFRS, measured by using Gray’s comparability index (see chapter 3); $NICH_{it}$ is the difference between the book value of net income at the end of 2004 under Greek GAAP and the restated figures under IFRS measured by using Gray’s comparability index (ibid); and ε_{it} is the mean zero disturbance term.

Panel A of Table 5.1 shows the descriptive statistics regarding the companies included in and excluded from this study. These statistics indicate that, in all financial measures, the companies excluded underperform those included. More specifically they exhibit lower book values of equity and net income per share, higher gearing and lower liquidity ratios. Additionally, they faced more negative change in the 2004 restated net income figure because of the transition to IFRS. They only faced a marginally more positive change in the 2004 restated book value of shareholders’ equity. Panel B of Table 5.1 shows the results of the probit model.

Table 5.1: Controlling for sample selection bias (N=175).

<i>Panel A: Descriptive statistics of companies included and companies excluded</i>							
Variable	Companies	N	Mean	SD	Min	Max	Median
Equity	Included	153	3.14	5.03	-0.09	55.78	2.06
	Excluded	22	2.14	1.18	0.45	5.50	1.93
Net income	Included	153	0.28	1.16	-3.26	11.56	0.11
	Excluded	22	0.22	0.37	-0.15	1.34	0.09
Liquidity	Included	153	2.13	5.17	0.15	61.43	1.40
	Excluded	22	1.88	1.71	0.23	7.47	1.13
Gearing	Included	153	0.29	0.17	0	0.68	0.29
	Excluded	22	0.54	0.24	0.06	0.86	0.55
Equity Comparability Index	Included	153	1.11	0.74	0.35	8.98	0.99
	Excluded	22	1.02	0.48	0.43	2.87	0.97
Earnings Comparability Index	Included	153	1.29	3.81	-20.60	32.05	0.96
	Excluded	22	1.70	2.17	-0.11	8.68	1.00
		Manufacturing			Non-Manufacturing		
Industry	Included	59			94		
	Excluded	8			14		

Auditor		‘Big 4’					non-‘Big 4’			
Included		38					115			
Excluded		2					20			
<i>Panel B: Results of the probit model</i>										
$S_{it} = a_0 + b_1 BVE_{it} + b_2 NI_{it} + b_3 Aud_{it} + b_4 Ind_{it} + b_5 Liq_{it} + b_6 Gea_{it} + b_7 EqCh_{it} + b_8 NICH_{it} + \varepsilon_{it}$										
<i>Int.</i>	<i>BVE_{it}</i>	<i>NI_{it}</i>	<i>Aud_{it}</i>	<i>Ind_{it}</i>	<i>Liq_{it}</i>	<i>Gea_{it}</i>	<i>EqCh_{it}</i>	<i>NICH_{it}</i>	<i>Pseudo R²</i>	<i>N</i>
0.469	0.114	-0.202	0.573	0.091	0.006	-0.010	0.339	-0.033*	0.06	175

*Significant at 10%. *Variable definitions:* S_{it} is the indicator variable equal to 1 for the sample firms and 0 otherwise; BVE_{it} is the book value of equity at the end of 2005, deflated by the number of shares outstanding one month after the publication of the financial statements relating 2005 (t); NI_{it} is the book value of net income at the end of 2005, deflated by the number of shares outstanding one month after the publication of the financial statements relating to 2005 (t); Aud_{it} is a dummy variable equal to 1 for companies having a ‘Big 4’ auditors and 0 otherwise; Ind_{it} is a dummy variable equal to 1 for manufacturing companies and 0 otherwise; Liq_{it} is the ratio of current assets divided by current liabilities at the end of 2005; Gea_{it} is the ratio of total debt divided by total assets at the end of 2005; $EqCh_{it}$ is the difference between the book value of shareholders equity at the end of 2004 under Greek GAAP and the restated figures under IFRS, measured by using Gray’s comparability index; $NICH_{it}$ is the difference between the book value of net income at the end of 2004 under Greek GAAP and the restated figures under IFRS measured by using Gray’s comparability index.

These results indicate that there is an economically very small but significant relationship between the sample companies selected and the change in their 2004 net income, as restated under IFRS.¹¹² As discussed previously, when Gray’s comparability index exhibits a value larger than 1 a negative change is indicated (see 3.5.1). Accordingly, this finding confirms that the companies excluded exhibited more negative impact on their 2004 net income figure.

5.5.2 The main model

As has been indicated, this study is based on the fundamental Ohlson (1995) model (OM). Additionally, the IMR calculated following the above selection (probit) model (denoted as $Lambda$) is used as control for selection bias:

$$MV_{it} = a_0 + b_1 BVE_{it} + b_2 NI_{it} + b_3 Lambda + \varepsilon_{it} \quad (\text{Eq. 5.9})$$

¹¹² The comparison between the measures of these two groups has to be treated with caution because the sample sizes differ substantially. Additionally, the pseudo R might seem quite low but this is common in this type of regressions (e.g. Bushee and Leuz, 2005). Also, its role is not crucial for drawing conclusions (cf. Gujarati, 2003).

- MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the end of the financial period under examination (t) (This means approximately four months after the year end date. It ensures that the accounting information is in the public domain and has been ‘absorbed’ by investors, cf. Barth et al., 2008; Francis et al., 2004; Harris and Muller, 1999);¹¹³
- BVE_{it} is the book value of net assets of company i at the end of the financial period under examination (t);
- NI_{it} is the net profit after tax of company i for the financial period under examination (t);
- $Lambda$ is the IMR calculated through the selection model above; and ε_{it} is the mean zero disturbance term.

5.5.2.1 Levels specification and econometric considerations

Easton (1999) argues that the OM provides obvious motivation for levels (price) models, without prohibiting the motivation for changes (returns) specifications. However, Barth et al. (2001: 95) remark that ‘for the most part, valuation models that form the basis for tests in the value relevance literature are developed in terms of the level of firm value (e.g. Miller and Modigliani, 1966; Ohlson, 1995)’.

In particular, several researchers (e.g. Barth et al., 2001; Beaver, 2002; Hung and Subramanyam, 2007) highlight an important difference between the two alternative specifications which, lies in the definition of value relevance research. As mentioned above, value relevance research examines what is reflected in a company’s value at a particular point of time. It does not examine what is reflected in changes of the value of a firm over a period of time. This is why Barth et al., (2001: 95) explain that ‘if the research question involves determining whether the accounting amount is timely,

¹¹³ Choosing one month after the announcement of the annual results also avoids any ‘noise’ that might be caused by the publication of the quarterly reports.

examining changes in value is the appropriate research design choice’. They continue by arguing that ‘non-academic accounting constituents are interested in a wide variety of questions, most of which do not involve timeliness’ (ibid: 95). The identification of timeliness as an ‘ancillary aspect of relevance’ by the FASB (SFAC No. 2, FASB, 1980) is a particular example.

From Ohlson and Shroff (1992), Kothari and Zimmerman (1995) to Gu (2005), authors have been unable to demonstrate the superiority of one specification over the other on econometric grounds. With relevance to the current research, neither Hung and Subramanyam (2007) nor Barth et al. (2008) use return specifications. In particular, Hung and Subramanyam (2007: 639) further point out that ‘an additional advantage of the price specification is that it is possible to examine the value relevance of both the stock (book value) and flow (net income) variables’. This is especially important if there is a trade-off between the value relevance of book value and net income, that is, if the new standards improve the value relevance of book values at the expense of net income. Additionally, Kothari and Zimmerman (1995: 157) suggest that the price specification ‘gives more economically sensible earnings response coefficients’. On the basis of the above, a levels specification is considered more appropriate for the purposes of this study.

However, Kothari and Zimmerman (1995) highlight that this specification ‘more frequently reject[s] tests of heteroskedasticity and/or model misspecification than return models’. They therefore suggest that, when possible, researchers should use both types of research design. Alternatively, to mitigate concerns regarding heteroskedasticity, they suggest that researchers should use White's (1980) heteroskedasticity-consistent standard errors when employing price models.

In order to address the concerns relating to heteroskedasticity, ‘Heteroskedasticity-consistent covariance matrix estimator 3 (HC3)’ is also employed here. Heteroskedasticity can also arise as a result of the presence of outliers (Gujarati, 2003: 390). This issue is also considered in the present part of the study and outliers are defined and excluded by using Cook’s Distance as a measure (Fielding and

Gilbert, 2004; Pallant, 2005). Similarly, the presence of multicollinearity is considered with a variance inflation factor (VIF) >10 as a threshold (Gujarati, 2003: 362).

An alternative technique for dealing with outliers could be to exclude cases for which the standardised residuals lie outside the range of ± 2 standard deviations (Belsley et al., 1980). This technique was considered and although it would exclude fewer observations it produced results with high multicollinearity and thus it was abandoned. The same applied to the findings when the *DFBETAS* statistic (Belsley et al., 1980) was used as a method for identifying and excluding outliers.

Another common problem in value relevance research is the scale bias which may introduce heteroskedasticity. The problem arises because firm size can vary substantially. There is debate in the literature regarding whether a scale factor should be used and, if so, which scaling factor results in less biased coefficients (e.g. Barth and Kallapur, 1996; Easton, 1998; Akbar and Stark, 2003; Easton and Sommers, 2003; Barth and Clinch, 2009). These papers use the Ohlson model to illustrate the effects of different scale factors. For example, Barth and Clinch (2009) test six different ways for controlling for scale bias: undeflated, share-deflated, equity book value-deflated, lagged price-deflated, returns, and equity market value-deflated. They conclude that those generally performing best are the share-deflated and non-deflated specifications.

In line with Barth and Clinch (2009) and with what is common in the relevant literature (e.g. Barth et al., 2008; Hung and Subramanyam, 2007; Collins et al., 1997; Barth and Clinch, 1996) the present study initially employs a per share specification. As a robustness measure, the non-deflated specification was initially used (Barth and Clinch, 2009; Beckman et al., 2007; Harris and Muller, 1999; Barth and Kallapur, 1996).

However, the results for the decomposed model in relation to the incremental value relevance of the adjustments reported in the reconciliation statements (5.6.3) indicated high multicollinearity when this technique was implemented. Thus, the

alternative measure of using equity market value as a deflator was finally employed as a robustness measure testing the first eight hypotheses H5.1 - H5.8 (e.g. Dechow et al., 1999; Easton and Sommers, 2003; Xu et al., 2007).

Deflating by equity market value results in ‘a regression of a column of ones on the inverse of the market capitalisation and each variable deflated by market capitalisation’ (Easton and Sommers, 2003: 29). In contrast to an OLS regression, this is a weighted least squares (WLS) one and ‘testing of inferences and interpretation of coefficients and t-statistics can then be performed in the usual (weighted least squares) manner’ (ibid: 29).

Findings which are significant under both specifications are considered to be valid for accepting or rejecting the hypotheses tested.

5.5.3 Pre-and post-IFRS relative value relevance (H5.1 - H5.6)

In order to provide an answer to research question 4 (Q4), this study assesses whether there is any change in the value relevance of accounting information before and after the adoption of IFRS by Greek listed companies. This objective can be explored in two dimensions. The first is to examine the shift in the valuation coefficients of book value of equity and net income between the two periods (i.e. H5.1). The second is to examine the change in the relative value relevance of accounting information measured as the R^2 of (Eq. 5.9) between the two periods under examination (i.e. H5.2). These two issues are tested with different methods.

In order to address the first one (i.e. H5.1), this study uses *panel data analysis* based on 2004 and 2005 for each company. Since the objective is to test if there is any difference (structural change) in the above model between the two periods, a dummy variable is introduced indicating the two different periods under examination (Gujarati, 2003). The model employed is:

$$MV_{it} = a_0 + b_1 DV + b_2 BVE_{it}^{GR\&IFRS} + b_3 BVE_{it}^{GR\&IFRS} * DV + b_4 NI_{it}^{GR\&IFRS} + b_5 NI_{it}^{GR\&IFRS} * DV + b_6 \text{Lambda} + b_7 \text{Lambda} * DV + \varepsilon_{it}$$

(Eq. 5.10)

- MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the end of the financial period under examination (t) (This means approximately four months after the end of 2004 & 2005);
- DV is the dummy variable where 1 refers to the 2005 IFRS financials and 0 refers to the 2004 Greek financials;
- $BVE_{it}^{GR\&IFRS}$ is the year end book value of shareholders’ equity (2004 Gr GAAP & 2005 IFRS);
- $BVE_{it}^{GR\&IFRS} * DV$ is the year end book value of shareholders’ equity multiplied by the dummy variable, testing the change in the coefficient of this variable between the two periods;
- $NI_{it}^{GR\&IFRS}$ is the net profit (2004 Gr GAAP & 2005 IFRS);
- $NI_{it}^{GR\&IFRS} * DV$ is the net profit multiplied by the dummy variable, testing the change in the coefficient of this variable between the two periods;
- $Lambda$ is the IMR calculated through the selection model;
- $Lambda * DV$ is the IMR calculated through the selection and multiplied by the dummy variable;
- ε_{it} is the mean zero disturbance term.

This method allows for comprehensive analysis of whether and how much the coefficients of BVE and NI (i.e. b_3 and b_5), referring to the 2005 financials, differ from those referring to 2004 (see further in Gujarati, 2003: 308) and whether this difference is significant. This allows for identifying not only a potential shift to the value assigned to the individual bottom line figures produced under the new accounting regime but also the direction of the shift. The dummy variable coefficient and its sign will indicate the average shift in the market price per share between the two periods.

In order to address the second hypothesis (i.e. H5.2), first, each regression is run separately for each period. Then, the present study employs Cramer’s (1987) Z-statistic to compare the R^2 of the two regressions with regard to both years. This needs estimation of the standard deviation of estimated R^2 s, which Cramer (1987) shows is a function of sample size, the number of independent variables and the true R^2 . As discussed by Kothari (2001) this method enables researchers to compare the explanatory power (R^2) of two models without the same dependent variable. Accordingly, this approach is helpful in making comparisons across countries, across industries or across periods and has been employed by Harris et al. (1994), Ball et al. (2000), Arce and Mora (2002), Alsalman (2003) and Sami and Zhou (2004) among others. The Z-statistics are computed as:

$$\frac{R_1^2 - R_2^2}{\sqrt{\sigma^2(R_1^2) + \sigma^2(R_2^2)}} \quad (\text{Eq. 5.11})$$

where σ^2 is the standard deviation of (R^2).

The above two approaches are followed for each sub-sample (large vs. small companies and companies with ‘Big 4’ and non-‘Big 4’ auditors) separately. Thus, it can be inferred whether there is any shift in the valuation coefficients and/or the relative value relevance of each sub-sample across the two periods (i.e. testing H5.3 and H5.6). Finally, to provide additional information to the reader, the differences in the coefficients across two sub-samples are measured by introducing a dummy variable partitioning the sample across each sub-sample. The design is similar to Eq. 5.10. 1 represents companies with ‘Big 4’ auditors or large firms and 0 represents companies with non-‘Big 4’ auditors and small firms.¹¹⁴ The Cramer Z-statistic is also computed testing the difference in the R^2 (i.e. relative value relevance) of each sub-sample within each partition.

¹¹⁴ As an alternative, a two-step regression and t tests (Arce and Mora, 2002; Hung and Subramanyam, 2007) have also been employed and the results do not change.

5.5.4 Incremental value relevance of the reconciliation adjustments (H5.7 and H5.8)

In order to examine the incremental value relevance of the reconciliation adjustments (i.e. providing an answer to Q5) the bottom line differences revealed by the restated 2004 figures are introduced into equation 5.9 (resulting in Eq. 5.12 below). More specifically, the 2005 book value of shareholders equity is decomposed back to the 2004 Greek numbers and is broken down across three components: the 2004 closing values under Greek GAAP; the difference revealed by restating the 2004 figures under IFRS; and the difference between opening and closing 2005 IFRS book value of equity. Similarly, the 2005 book value of net income is broken down into three components in the spirit of a time series view of current net income (Brown, 1993; Capkun et al., 2008): the 2004 closing values under Greek GAAP; the difference revealed by restating the 2004 figures under IFRS; and the difference between the reported 2004 and 2005 net income under IFRS.¹¹⁵ This is the first step of the decomposition applied and it is not empirically tested.

This decomposition assists in examining the incremental value relevance of specific reconciling items (H5.7) because Eq. 5.12 is further decomposed (resulting in Eq. 5.13 below) by breaking down the change in the bottom line balance sheet net assets into ten components: impact from IAS 2 and IAS 36 (aggregate because they both deal with impairment of assets); IAS 10; IAS 12; IAS 16; IAS 19; IAS 20; IAS 32/39 (joint as companies tended to disclose this impact jointly); IAS 37; IAS 38; and the sum of the impact from all other standards (Other).¹¹⁶ (It is noted that Eq. 5.13 is the one tested.)

As shown in 3.8, these adjustments were relevant to the majority of companies examined in this study. It is acknowledged that, in 3.8, adjustments relating to further standards were identified to be relevant to some of the companies examined (nevertheless not many) and thus it may be worth examining their incremental value

¹¹⁵ This decomposition is in line with the notion that annual earnings follow ‘a random walk with drift’ (Brown, 1993).

¹¹⁶ See 3.4.2 for more details regarding the relevance of these adjustments with regard to the Greek context in particular.

relevance as well. However, the decomposition could not be expanded further for the following reason. Since the study intends to examine the incremental value relevance of these adjustments across the partition of small versus large firms, it would be impracticable to test a model with so many variables in a small sample of around 75 firms (for each sub-sample) from an econometrics point of view. This would reduce substantially the degrees of freedom and it might result in high multicollinearity (cf. Gujarati, 2003).

Eq. 5.12 and the description of the decompositions examined within Eq. 5.13 are as follows:

$$MV_{it} = a_0 + b_1 BVE_{it}^{GR} + b_2 \Delta BVE_{it}^{IFRS-GR} + b_3 \Delta BVE_{it}^{IFRS} + b_4 NI_{it}^{GR} + b_5 \Delta NI_{it}^{IFRS-GR} + b_6 \Delta NI_{it}^{IFRS} + b_7 \text{Lambda} + \varepsilon_{it}$$

(Eq. 5.12)

- MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the end of 2005 (t) (This means approximately four months after the end of 2005);
- BVE_{it}^{GR} is the 2004 book value of shareholders’ equity, under Greek GAAP;
- $\Delta BVE_{it}^{IFRS-GR}$ is the change in the 2004 shareholders’ equity, revealed by the restated 2004 comparative figures;
- ΔBVE_{it}^{IFRS} is the difference between the opening and closing 2005 book value of shareholders’ equity under IFRS;
- NI_{it}^{GR} is the 2004 net profit after tax under Greek GAAP;
- $\Delta NI_{it}^{IFRS-GR}$ is the change in the 2004 net profit after tax, revealed by the restated 2004 comparative figures;
- ΔNI_{it}^{IFRS} is the difference between the reported net profit after tax in 2004 (as restated under IFRS) and the 2005 net profit after tax (this is in line with the

spirit of a time series view of current net income (Brown, 1993; Capkun et al., 2008);

- ε_{it} is the mean zero disturbance term.

$$MV_{it} = a_0 + b_1 BVE_{it}^{GR} + b_2 IAS2_36_{it} + b_3 IAS_10_{it} + b_4 IAS_12_{it} + b_5 IAS_16_{it} + b_6 IAS_19_{it} + b_7 IAS_20_{it} + b_8 IAS32_39_{it} + b_9 IAS_37_{it} + b_{10} IAS_38_{it} + b_{11} Other_{it} + b_{12} \Delta BVE_{it}^{IFRS} + b_{13} NI_{it}^{GR} + b_{14} \Delta NI_{it}^{IFRS-GR} + b_{15} \Delta NI_{it}^{IFRS} + b_{16} \Lambda + \varepsilon_{it}$$

(Eq. 5.13)

- MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the end of 2005 (t) (This means approximately four months after the end of 2005);
- BVE_{it}^{GR} is the 2004 book value of shareholders’ equity, under Greek GAAP;
- $IAS2_36_{it}$ is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 2 and IAS 36 on aggregate;
- IAS_10_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 10;
- IAS_12_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 12;
- IAS_16_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 16;
- IAS_19_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 19;
- IAS_20_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 20;
- $IAS32_39_{it}$ is the impact on 2004 book value of shareholders’ equity caused by the adoption of IAS 32 and IAS 39, as captured in aggregate;

- IAS_{37}_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 37;
- IAS_{38}_{it} is the impact on the 2004 book value of shareholders’ equity caused by the adoption of IAS 38;
- $Other_{it}$ the aggregate impact on the 2004 book value of shareholders’ equity caused by the adoption of all other standards;
- ΔBVE_{it}^{IFRS} is the difference between the opening and closing 2005 book value of shareholders’ equity under IFRS;
- NI_{it}^{GR} is the 2004 net profit after tax under Greek GAAP;
- $\Delta NI_{it}^{IFRS-GR}$ is the change in the 2004 net profit after tax, revealed by the restated 2004 comparative figures;
- ΔNI_{it}^{IFRS} is the difference between the reported net profit after tax in 2004 (as restated under IFRS) and the 2005 net profit after tax (this is in line with the spirit of a time series view of current net income (Brown, 1993; Capkun et al., 2008);
- ε_{it} is the mean zero disturbance term.¹¹⁷

The transformation of equation 5.9 will maintain or increase its explanatory power (R^2) because more variables are introduced (Eq. 5.13). Accordingly, any difference between the explanatory power (R^2) of equations 5.9 and 5.13 are examined with the Vuong (1989) test statistic. The Vuong test compares the fit of two non-nested models. A condition is that both models have the same dependent variable.

As Arce and Mora (2002: 596) explain ‘under the assumption of independence and normality of the errors of both models Vuong develops the joint density function of the observations in the sample and the log-likelihood function.’ Then, the likelihood ratio test is employed for comparing the explanatory power of the models. In the

¹¹⁷ Using the actual adjustments (deflated by the number of shares or equity market value) is in line with prior literature (e.g. Harris and Muller, 1999).

present case the Vuong test answers the question: which of the two models, the basic model (i.e. Eq. 5.9) or the decomposed model (i.e. Eq. 5.13), has better explanatory power? This test has also been used by Dechow (1994), Arce and Mora (2002), and Hung and Subramanyam (2007), among others.

Finally, similar to the previous tests and to test hypothesis H5.8, the differences in the coefficients across the two sub-samples are measured by introducing a dummy variable partitioning the sample across each sub-sample. The design is similar to Eq. 5.10. 1 represents large firms and 0 represents small firms.¹¹⁸ The Cramer Z-statistic is also computed to explore the difference in the R² of large versus small companies with regard to the decomposed model (i.e. Eq. 5.13).

5.5.5 Value relevance and compliance with IFRS mandatory disclosures (H5.9 – H5.11)

One of the main research questions of this study is to examine the potential value relevance of compliance with IFRS mandatory disclosures. Additionally, as discussed in 1.4.5.3 and 5.4.2.3, one of the contributions of this study is that it employs the OM with LID. Thus, in Eq. 5.9 the level of compliance with IFRS’ mandatory disclosures is introduced, representing ‘other information’, resulting in Eq. 5.14:

$$MV_{it} = a_0 + b_1 BVE_{it} + b_2 NI_{it} + b_3 CS_{it} + b_4 \text{Lambda} + \varepsilon_{it} \quad (\text{Eq. 5.14})$$

- MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the 2005 financial period (t);
- BVE_{it} is the book value of net assets of company i at the end of 2005 (t);
- NI_{it} is the net profit after tax of company i in 2005 (t);
- CS_{it} is the compliance score with IFRS mandatory disclosures of company i in 2005 (t);
- Lambda is the IMR calculated through the selection model above;

¹¹⁸ A two-step regression and t -tests have also been employed and the results do not change.

- and ε_{it} is the mean zero disturbance term.

This transformation of Eq. 5.9, i.e. adding the compliance score as a further explanatory variable, will maintain or increase its explanatory power (R^2). Accordingly, CS’s incremental (or marginal) contribution to the model is tested by following an F test procedure (commonly known as ANOVA technique).¹¹⁹

To avoid any biased inferences because of the method measuring compliance scores used as a proxy for ‘other information’, two separate regressions have been tested: one where CS is the compliance score under the PC method and one where CS is the compliance score under Cooke’s dichotomous approach. The results for both regressions are provided and the inferences are made for the instances where the compliance score proves to be significant (or insignificant) under both methods.¹²⁰

To examine whether the relative value relevance (i.e. R^2) of high compliance companies compared to that of low compliance companies (i.e. testing H5.10), first, Eq. 5.9 is employed for each sub-sample separately. Then, the Cramer Z statistic is employed.

To test research hypothesis H5.11, a dummy variable is introduced in Eq. 5.9 and is employed for the full sample. This results in the following:

$$MV_{it} = a_0 + b_1 DV + b_2 BVE_{it} + b_3 BVE_{it} * DV + b_4 NI_{it} + b_5 NI_{it} * DV + b_6 Lambda + b_7 Lambda * DV + \varepsilon_{it}$$

(Eq. 5.15)

- MV_{it} is the market value of a company i one month after the publication of the 2005 financial statements (t) (This means approximately four months after the end of 2005);
- DV is a dummy variable where 1 refers to high compliance (i.e. above median) and 0 refers to low compliance companies;

¹¹⁹ I am grateful to Hannu Schadéwitz and Paul André for pointing this out.

¹²⁰ Instead of using the raw compliance scores, tests based on the ranked scores which resulted from both methods were also conducted. The results were similar to those presented thus they are suppressed for economy reasons.

- BVE_{it} is the 2005 book value of shareholders’ equity;
- $BVE_{it} * DV$ is the 2005 book value of shareholders’ equity multiplied by the dummy variable, testing the difference in the coefficient of this variable between the two groups of companies;
- NI_{it} is the 2005 net profit;
- $NI_{it} * DV$ is the net profit multiplied by the dummy variable, testing the difference in the coefficient of this variable between the two groups of companies;
- $Lambda$ is the IMR calculated through the selection model;
- $Lambda * DV$ is the IMR calculated through the selection and multiplied by the dummy variable;
- ε_{it} is the mean zero disturbance term.¹²¹

5.6 Results and Discussion

5.6.1 Descriptive statistics

Table 5.2 reports bottom line figures relating to the relative value relevance of accounting information before and after the adoption of IFRS in Greece. It also provides information on the market values in both periods. These descriptive statistics indicate that market values have increased significantly between the two years. The mean (median) market value of the sample firms is 273.9 (46.1) million in 2005 and 183.9 (33.3) million in 2004. The average value of net assets has also increased significantly from 2004 to 2005 but the median value has not changed significantly. The change in net income is also not significant.

Table 5.3 reports information in relation to the variables used for testing H5.7 and H5.8. More specifically, it provides descriptive statistics on the net changes revealed

¹²¹ A two-step regression and *t*-tests have also been employed and the results do not change.

by the restated 2004 figures and the individual adjustments reported in companies’ reconciliation statements relating to the individual standards under examination.

Although a smaller sample is used and Gray’s comparability index is not employed here, the majority of the findings are consistent with those reported in 3.8. The impact on both bottom line measures is significant, as is the impact on shareholders’ equity of the individual changes introduced by specific standards. The aggregate impact from all the remaining standards is not material and not statistically significant.

Table 5:2: Descriptive statistics (N=153).

<i>Panel A: Non-deflated Variables</i>							
Variables	N	Mean		St. Deviation		Median	
		2005	2004	2005	2004	2005	2004
MV	153	273.9	183.9	933.9	666.2	46.1	33.3
<i>Test of differences</i>		(0.000)				(0.000)	
BVE	153	104.6	87.4	198.1	147.6	30.7	31.7
<i>Test of differences</i>		(0.018)				(0.106)	
NI	153	12.9	10.8	49.3	44.2	1.84	2.11
<i>Test of differences</i>		(0.259)				(0.197)	
<i>Panel B: Variables deflated by the number of outstanding shares</i>							
Variables	N	Mean		St. Deviation		Median	
		2005	2004	2005	2004	2005	2004
MV	153	5.21	3.77	9.34	6.45	2.74	1.86
<i>Test of differences</i>		(0.000)				(0.000)	
BVE	153	3.14	2.93	5.03	3.73	2.06	2.06
<i>Test of differences</i>		(0.177)				(0.546)	
NI	153	0.28	0.24	1.16	0.84	0.11	0.12
<i>Test of differences</i>		(0.427)				(0.136)	

Financial data in €millions. €1=US\$1.2597 and €1=£0.6930 (28/4/06-FT). Two-tailed *p*-values are in parentheses. The means tested with the ‘paired-samples *t*-test’ and the medians tested with the ‘Wilcoxon signed rank test’. *Variable definitions*: *MV*- Market Capitalisation as at 1 month after the publication of the annual results (i.e., approximately 4 months after the year end date); *BVE*- Book value of shareholders’ equity; *NI*- Net profit after tax.

Table 5:3: Changes according to reconciliation statements – descriptive statistics (N=153).

<i>Panel A: Non-deflated Variables</i>														
	Impact on 2004 book values		Decomposed impact on 2004 book value of Equity										Changes of 05 book values	
	$\Delta BVE^{IFRS-GR}$	$\Delta NI^{IFRS-GR}$	IAS2_36	IAS_10	IAS_12	IAS_16	IAS_19	IAS_20	IAS32_39	IAS37	IAS_38	Other	ΔBVE^{IFRS}	ΔNI^{IFRS}
Mean	9.58*	1.62**	-1.38***	5.05**	-3.09**	22.9***	-1.59***	-2.94***	-3.25***	-2.02***	-3.23***	-0.84	7.65**	0.45
St. Dev.	69.5	9.05	5.74	24.98	18.7	85.39	4.47	13.32	8.85	5.08	9.64	14.2	44.5	24.0
Lower Quartile	-4.39	-0.56	-0.32	0.00	-1.42	0.11	-1.09	-1.08	-2.11	-1.57	-1.63	-1.16	-0.42	-2.15
Median	0.25	0.15**	0.00	0.68***	-0.07**	3.25***	-0.29***	-0.24***	-0.40***	-0.19***	-0.50***	0.01	0.66**	-0.27
Upper Quartile	5.01	1.36	0.00	2.81	0.91	12.27	-0.01	0	0	0	-0.50	-0.38	4.27	0.93
% Pos.	53.6	56.9	0.70	70.6	43.1	11.8	12.0	0	9.20	3.90	3.90	52.3	65.4	41.2
% Neg.	46.4	43.1	37.9	0	51.6	77.1	75.8	62.7	73.2	60.1	88.2	47.7	34.6	58.8
% Non-zero	100	100	38.6	70.6	94.7	88.9	87.8	62.7	82.4	64.0	96.1	100	100	100
<i>Panel B: Variables deflated by the number of outstanding shares</i>														
	Impact on 2004 book values		Decomposed impact on 2004 book value of Equity										Changes of 05 book values	
	$\Delta BVE^{IFRS-GR}$	$\Delta NI^{IFRS-GR}$	IAS2_36	IAS_10	IAS_12	IAS_16	IAS_19	IAS_20	IAS32_39	IAS37	IAS_38	Other	ΔBVE^{IFRS}	ΔNI^{IFRS}
Mean	0.09	0.03*	-0.06***	0.01***	-0.06***	0.53***	-0.05***	-0.09***	-0.10***	-0.70***	-0.09***	-0.04	0.19*	0.01
St. Dev.	0.98	0.23	0.22	0.26	0.25	1.01	0.10	0.21	0.21	0.16	0.16	0.31	1.26	0.56
Lower Quartile	-0.23	-0.03	-0.02	0.00	-0.10	0.01	-0.05	-0.08	-0.12	-0.08	-0.10	-0.05	-0.04	-0.12
Median	0.01	0.01**	0.00**	0.04**	-0.01**	0.15**	-0.02***	-0.10**	-0.20**	-0.01***	-0.03**	0.01	0.03*	-0.02
Upper Quartile	0.28	0.08	0.00	0.10	0.04	0.69	0.00	0.00	0.00	0.00	-0.01	0.03	0.16	-0.07

Financial data in €millions. €1=US\$1.2597 and €1=£0.6930 (28/4/06-FT). Two-tailed tests. One sample *t*-test for mean ($m \neq 0$). One sample Wilcoxon signed rank test for median ($m \neq 0$). *Significant at 10%, **Significant at 5%, ***Significant at 1%. *Variable definitions*: $\Delta BVE^{IFRS-GR}$ =Change in the 2004 book value of shareholders' equity; $\Delta NI^{IFRS-GR}$ =Change in the 2004 net profit after tax; *IAS2_36*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 2&IAS36; *IAS_10*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 10; *IAS_12*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 12; *IAS_16*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 16; *IAS_19*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 19; *IAS_20*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 20; *IAS32_39*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 32&39; *IAS_37*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 37; *IAS_38*=Change in the 2004 book value of shareholders' equity caused by the adoption of IAS 38; and *Other*=aggregate change in the 2004 book value of shareholders' equity caused by the adoption of all other standards; ΔBVE^{IFRS} =Change between opening and closing 2005 book value of shareholders' equity; and ΔNI^{IFRS} =Difference between 2004 and 2005 net income under IFRS.

5.6.2 Pre-and post-IFRS relative value relevance (H5.1 – H5.6)

5.6.2.1 Ordinary Least Squares (OLS) regression

Table 5.4 shows the results of the OLS regression of book value of net assets (BVE) and net profit after tax (NI) on market values per share (MV) for both periods with regard to the basic model (i.e. Eq. 5.9) as well as the structured model using panel data (Eq. 5.10). The main results are also disaggregated across the two categories controlling for the perceived quality of the reported data: small and large firms (H5.3 and H5.4) and ‘Big 4’ and non-‘Big 4’ firms (H5.5 and H5.6).

The table also includes two separate sections showing the difference in the valuation coefficients of book values of equity and net income as well as in the overall relative value relevance of the two partitions when these are examined for each year separately. For example, this illustrates how different was the valuation coefficient of book value of equity of small firms compared to large firms in 2004.

With regard to the full sample, the results refer to 135 observations as 18 outliers were removed. The number of outliers is relatively large since a company that was considered to be an outlier in one year was also excluded from the sample with regard to the other year.¹²²

The adjusted R^2 of 0.49 and 0.44 show that book values are strongly associated with the market price under both years. In addition, both coefficients of book values of equity and net profit are statistically significant. However, in line with the prior literature in general (Collins et al., 1997) and with regard to Greece in particular (Karathanassis and Spilioti, 2005), they indicate that the market gives substantially more weight (higher coefficients) to earnings than to book value of equity. This is the case irrespective of the accounting standards applied.

¹²² I am in debt to one anonymous referee for this suggestion.

In line with expectations, increases in the valuation coefficients of equity and in earnings are revealed. However, in the panel data regression, both coefficients of the book values multiplied by the dummy variable are not significant.

This is interpreted as no change in the attitude towards any of the two specific measures; i.e. after the adoption of the new standards, neither net assets nor net profit after tax are viewed significantly differently by the investors. Additionally, the anticipated higher relative value relevance of book values (i.e. higher R^2) is not confirmed. In fact, a decrease in R^2 is identified but the results of Cramer’s Z statistic reveal that this is not significant. This means that the expected higher accounting quality after adoption of IFRS, as expressed by higher relative value relevance, is not identified in the case of Greek companies.

Similar findings appear in both panels in relation to all four sub-samples for which this hypothesis is tested. After excluding the observations identified as outliers, no significant change in the way the market weights book value of equity or reported earnings after the adoption of IFRS is identified across the two partitions. The expected positive shift in the valuation coefficient of book value of equity is found across all sub-samples. However, the expected greater increase in the book value of small companies and companies with non-‘Big 4’ auditors is not identified. In fact, the increase is smaller compared to that in larger companies and companies with ‘Big 4’ auditors. However, nowhere are these changes significant.

The findings regarding the coefficient of net income are conflicting across the sub-samples. When the sample is partitioned across small versus large companies, a decrease is observed in the coefficients of net income that is relatively greater for large companies. An increase in the coefficients is also observed when the sample is partitioned across companies having ‘Big 4’ and non-‘Big 4’ auditors. This is relatively greater for companies having non-‘Big 4’ auditors. However, again, for none of the sub-samples is the shift significant.

Additionally, no significant change in the R^2 of the sub-samples is identified by the results of Cramer’s Z statistic. In particular, with the exception of the sub-sample of

companies with ‘Big 4’ auditors, where the R^2 increases marginally, all other sub-samples exhibit a reduction in their relative value relevance.

5.6.2.2 Weighted Least Squares (WLS) regression

Table 5.5 provides the results regarding the same tests with the alternative specification of weighted least squares regressions i.e. where the deflator is the market value of equity. The majority of the findings discussed above are confirmed.

The expected positive shift in the valuation coefficient of book value of equity is also shown here. Although not significant for the full sample, large companies and companies with non-‘Big 4’ auditors, for small companies and companies with ‘Big 4’ auditors, this increase is significant at 10% (0.178 and 0.348 respectively). As discussed in 5.5.2, since this finding is not confirmed by both regressions, it is not considered robust enough for generalisations. However, it provides weak evidence that the book value of equity is more value relevant under IFRS (for a sub-set of companies at least).

Similar to the previous regression, the results regarding the valuation coefficient of net income are somewhat conflicting. For the large companies, a negative shift is observed whilst a positive shift is observed for the full sample and for all other sub-samples. However, none of these changes are significant.

On that basis, an indication of a decrease of the relative value relevance is also observed. Additionally, no significant change in the relative value relevance of the full sample or the sub-samples in the two partitions is identified.

In conclusion, the null hypotheses, i.e. of no change between the value relevance of Greek GAAP and IFRS overall or for the weighting of equity and income, cannot be rejected. This holds for the full sample (i.e. H5.1 & H5.2) and for the sub-samples partitioned on the basis of size and auditor (i.e. H5.3 – H5.6).

Table 5:4: Pre and post IFRS relative value relevance of accounting information: H5.1 – H5.6 (N=153). OLS Regression.

(5.9): $MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3\text{Lambda}_{it} + \varepsilon_{it}$										
(5.10): $MV_{it} = a_0 + b_1DV + b_2BVE_{it}^{GR\&IFRS} + b_3BVE_{it}^{GR\&IFRS} * DV + b_4NI_{it}^{GR\&IFRS} + b_5NI_{it}^{GR\&IFRS} * DV + b_6\text{Lambda}_{it} + b_7\text{Lambda}_{it} * DV + \varepsilon_{it}$										
<i>Sample</i>	<i>Period</i>	Intercept	BVE	NI	Lambda	F	Adj. R²	R²	Max VIF	N
Full sample	2004 GR (5.9)	1.723***	0.369**	5.153***	-3.913*	12.67***	0.49	0.50	1.32	135
	2005 IFRS (5.9)	1.777*	0.558***	6.520***	-1.571	14.02***	0.45	0.45	1.32	135
	<i>Dif (5.10)</i>	0.054	0.189	1.363				-0.06		
Above MV Median	2004 GR (5.9)	1.398**	0.379*	5.080***	0.604	10.51***	0.35	0.38	1.23	68
	2005 IFRS (5.9)	2.205	0.513***	4.343***	3.567	10.88***	0.33	0.36	1.48	68
	<i>Dif (5.10)</i>	0.807	0.134	-0.736				-0.02		
Below MV Median	2004 GR (5.9)	1.233**	0.273**	3.865***	-2.646	12.39***	0.62	0.64	1.44	68
	2005 IFRS (5.9)	0.410*	0.354***	3.456***	1.501*	30.54***	0.59	0.61	1.33	68
	<i>Dif (5.10)</i>	-0.823	0.081	-0.409				-0.03		
Large vs. Small	2004 GR (5.9)	0.165	0.106	1.215				-0.26		
	2005 IFRS (5.9)	1.795**	0.159	0.887				-0.25		
'Big 4'	2004 GR (5.9)	-0.173	0.667*	8.807***	3.631	38.32***	0.79	0.81	1.38	36
	2005 IFRS (5.9)	-1.266	1.042***	9.144***	14.759	25.21***	0.80	0.82	2.15	36
	<i>Dif (5.10)</i>	-1.093	0.375	0.337				0.01		
non-'Big 4'	2004 GR (5.9)	1.513**	0.265*	3.759	-2.090	19.22***	0.40	0.42	1.76	105
	2005 IFRS (5.9)	1.064	0.420**	5.034***	1.241	14.37***	0.35	0.37	1.35	105
	<i>Dif (5.10)</i>	-0.450	0.155	1.275				-0.05		
'Big 4' vs. non-'Big 4'	2004 GR (5.9)	-1.686	0.402	5.048***				0.39		
	2005 IFRS (5.9)	-2.324	0.621	4.110**				0.45		

*Significant at 10%, **Significant at 5%, ***Significant at 1%. Outliers have been defined and excluded by using Cook's Distance as a measure.

Variable definitions: DV=dummy variable where 0 indicates 2004 Greek financials and 1 indicates 2005 IFRS financials; $BVE^{GR\&IFRS}$ =panel data values of book value of shareholders' equity; $BVE^{GR\&IFRS} * DV$ =panel data values of book value of shareholders' equity multiplied by the dummy variable; $NI^{GR\&IFRS}$ - panel data values of net profit after tax; and $NI^{GR\&IFRS} * DV$ =panel data values of net profit after tax multiplied by the dummy variable. All variables have been deflated by the number of shares outstanding.

Table 5:5: Pre and post IFRS relative value relevance of accounting information: H5.1 – H5.6 (N=153). WLS Regression.

(5.9): $MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3Lambda_{it} + \varepsilon_{it}$										
(5.10): $MV_{it} = a_0 + b_1DV + b_2BVE_{it}^{GR\&IFRS} + b_3BVE_{it}^{GR\&IFRS} * DV + b_4NI_{it}^{GR\&IFRS} + b_5NI_{it}^{GR\&IFRS} * DV + b_6Lambda_{it} + b_7Lambda_{it} * DV + \varepsilon_{it}$										
<i>Sample</i>	<i>Period</i>	Intercept	BVE	NI	Lambda	F	Adj. R²	R²	Max VIF	N
Full sample	2004 GR (5.9)	2.581***	0.341**	2.518**	-7.612***	10.13***	0.38	0.39	1.84	135
	2005 IFRS (5.9)	2.043	0.533**	3.612**	-4.721	7.55***	0.36	0.38	1.72	135
	<i>Dif (5.10)</i>		0.192	1.094					-0.01	
Above MV Median	2004 GR (5.9)	5.481	0.223	3.375**	-8.341	2.92**	0.25	0.28	1.92	68
	2005 IFRS (5.9)	6.634*	0.474	3.052	-1.593	2.19*	0.25	0.28	1.80	68
	<i>Dif (5.10)</i>		0.251	-0.323					-	
Below MV Median	2004 GR (5.9)	1.283***	0.158**	1.950***	-2.504**	16.82***	0.37	0.40	1.22	68
	2005 IFRS (5.9)	1.580	0.336***	2.038	2.790	43.26***	0.46	0.48	1.04	68
	<i>Dif (5.10)</i>		0.178*	0.088					-0.08	
Large vs. Small Firms	2004 GR (5.9)		0.065	1.425					-0.12	
	2005 IFRS (5.9)		0.139	1.014					-0.20	
'Big 4'	2004 GR (5.9)	2.341	0.570***	5.446**	-1.197	26.48***	0.65	0.68	1.44	36
	2005 IFRS (5.9)	-3.045	0.918***	7.555***	3.391	35.49***	0.76	0.78	1.64	36
	<i>Dif (5.10)</i>		0.348*	2.109					-0.10	
Non-'Big 4'	2004 GR (5.9)	1.811	0.164	2.735***	-3.752*	3.86**	0.23	0.25	2.22	105
	2005 IFRS (5.9)	1.554	0.347	3.364***	1.601	3.02**	0.23	0.25	1.84	105
	<i>Dif (5.10)</i>		0.183	0.629					-	
'Big 4' vs. Non-'Big 4'	2004 GR (5.9)		0.571*	4.192*				0.43		
	2005 IFRS (5.9)		0.405**	2.711				0.53		

*Significant at 10%, **Significant at 5%, ***Significant at 1%. Outliers have been defined and excluded by using Cook's Distance as a measure. *Variable definitions:* DV=dummy variable where 0 indicates 2004 Greek financials and 1 indicates 2005 IFRS financials; $BVE^{GR\&IFRS}$ =panel data values of book value of shareholders' equity; $BVE^{GR\&IFRS} * DV$ =panel data values of book value of shareholders' equity multiplied by the dummy variable; $NI^{GR\&IFRS}$ =panel data values of net profit after tax; and $NI^{GR\&IFRS} * DV$ =panel data values of net profit after tax multiplied by the dummy variable. All variables have been deflated by the market value of equity.

5.6.2.3 Discussion of the findings regarding H5.1 – H5.6

The evidence of no change in the relative value relevance, although surprising, is in line with Clarkson et al. (2008) who report minor changes in the relative value relevance of accounting information in code law countries after the adoption of IFRS. It is also in line with Hung and Subramanyam (2007) with regard to Germany.¹²³

This finding, as well as no significant increases in the valuation coefficients of book values, support the arguments of Ball et al. (2000) and Ball (2006) that adopting high quality accounting standards does not necessarily lead to an improvement of the accounting quality (at least when accounting quality is defined as the association between book values and market values). Instead, a country and market specific context may continue to affect the perception of accounting quality.

Barth et al. (2008) specifically spell out the importance of enforcement with regard to the implications this may have in the relative value relevance of accounting information. This is of particular relevance to the present research if one considers the evidence of low enforcement and high earnings management in Greece. Additionally, Barth et al. (2008) argue that principles-based accounting systems may offer preparers the flexibility to apply creative accounting practices and they explain that this may also hinder the quality of accounting information provided under IFRS. Given the prevalence of creative accounting under the old regime, as well as the evidence of non-compliance with IFRS disclosure requirements (see previous chapter), Greek investors may not know whether, how, or to what extent, the new IFRS figures have been creatively adjusted. Therefore, they may not assume IFRS financial statements to be of higher quality.

For example, Kontoyannis (2005) provides the following strong quote attributed to a senior manager of a large Greek trading company: ‘I find it difficult to believe that somebody who is used in speaking lies under one accounting regime will not do so

¹²³ Callao et al. (2007) also report no change in the value relevance of accounting information in Spain. However, they use a different research design which makes their results less comparable.

under another’. Such concerns in respect of compliance with the measurement and recognition rules were also expressed by Vroustouris (2007), member of ELTE and of the Accounting Regulatory Committee (ARC) in the European Commission. He thought it likely that ‘a systematic audit of financial statements, by experienced and specialised auditors, would reveal many and significant problems in relation to IFRS’ implementation’. Avlonitis (2007), director of the HCMC’s ‘Listed companies supervision division’ states that in addition to non-compliance with IFRS disclosure requirements some companies *inter alia* violated the standards’ measurement and recognition requirements.

Furthermore, the results presented in Table 5.4 may well suggest that investment decisions in the Greek market are influenced by the characteristics of the preparer (or provider) of the financial statements, irrespective of the accounting standards applied. It is shown that under both periods, the coefficient for earnings is significantly higher when the company has a ‘Big 4’ auditor (5.048*** in 2004 and 4.110** in 2005). This finding is not surprising, since, as discussed above, there is evidence of less earnings management (Caramanis and Lennox, 2008) and higher audit effort (Leventis and Caramanis, 2005; Caramanis and Lennox, 2008) (i.e. more reliable earnings) in companies with large auditors.

Additionally, the findings discussed in chapter 3 indicate that the impact on net profit was not significant for companies with ‘Big 4’ auditors (3.7); companies with non-‘Big 4’ auditors faced a significantly greater impact on gearing than companies with ‘Big 4’ auditors and, for some of the standards expected to curtail creative accounting, the impact was either significant or greater for companies with non-‘Big 4’ auditors. Furthermore, the findings of chapter 4 indicate that in 2005 compliance with IFRS disclosure requirements is lower for firms with non-‘Big 4’ auditors and this may affect the perceptions of the market participants regarding companies’ fundamentals. However, no difference in the relative value relevance is observed when one looks at each year individually.

For the partition of small versus large firms, no statistically significant difference with regard to the book values of earnings and/or equity is identified when one looks at each year separately. The coefficient of earnings is higher for larger companies (1.215 in 2004 and 0.887 in 2005) as the literature suggests (e.g. Collins et al., 1997; Hayn, 1995; Xu et al., 2007) but not significantly higher. Neither the relative value relevance is higher for large firms.

Although the results provided in Table 5.5 are not equally significant, they provide weak evidence that, in 2005, investors continue to weight higher earnings from companies with ‘Big 4’ auditors. More specifically, they confirm that in 2004 there was higher weight in earnings of companies with ‘Big 4’ auditors (4.192*). With regard to 2005, the difference in the coefficient is indeed higher (2.711) but not significantly higher as appeared to be under the previous specification (4.110***). Additionally, the results under the WLS regression reveal that under both periods the book value of equity is weighted significantly higher for companies with ‘Big 4’ auditors (0.571* in 2004 and 0.405** in 2005). This appeared to be the case under the previous type of regression (i.e. OLS) as well but was not statistically significant (0.402 and 0.621 respectively). Thus, weak evidence that the book value of equity is also perceived of higher quality for companies having a ‘Big 4’ auditor is provided.

The findings regarding the partition of small versus large companies do not change. Large companies exhibit higher, but not significantly so, coefficients of earnings under both periods.

Overall, these findings suggest that investors perceived earnings of companies with ‘Big 4’ auditors as of higher quality under Greek GAAP. There is also weak evidence that this is also the case under IFRS. Additionally, weak evidence is provided indicating that, consistent with the literature, earnings of large companies exhibit a higher valuation coefficient compared to small companies.

5.6.3 Incremental value relevance of reconciliation adjustments (H5.7 and H5.8)¹²⁴

5.6.3.1 Ordinary Least Squares (OLS) regression

The information concerning H5.7 in relation to the total sample as well as the two sub-samples, based on the OLS regression, is presented on Table 5.6. This disaggregation (Eq. 5.13) facilitates the examination of the incremental value relevance of material individual adjustments on shareholders’ equity and the difference in the restated 2004 book value of net income.

Focusing on the results concerning the full sample, it is shown that the adjustments regarding IAS 10, IAS 12, IAS 16, IAS 32&39 and IAS 38 are incrementally value relevant. Incrementally value relevant also is the (small) aggregate adjustment with regards to the remaining standards. It is observed that the coefficients related to all the adjustments have a positive sign. The exception is the coefficient with respect to the adjustment in relation to IAS 38 which is negative. The adjustment relating to the bottom line difference between net income under Greek GAAP and the restated under IFRS is not significant. The Vuong test comparing the adjusted R^2 of the basic (Eq. 5.9) and the decomposed model (Eq. 5.13) shows significantly higher explanation of the variance between book and market values from the latter. This further indicates that disaggregating the book value of equity in 2005 across several components does improve the mapping of the book values on market values.

Turning on the findings for the sub-sample of large companies, it is shown that none of the adjustments is value relevant. However, the signs of the coefficients have the same direction with those regarding the full sample. The Vuong test indicates that the 8% difference between the adjusted R^2 of the decomposed model and the basic model is not significant.

¹²⁴ Since this analysis focuses only on 2005, fewer companies could have been treated as outliers. However, to facilitate comparison with the findings regarding the previous hypotheses, the same observations used in the previous section are used here.

As far as the sub-sample of small companies is concerned, it is shown that the adjustment concerning the IAS 10 is significant with a positive coefficient. The adjustment with regard to IAS 38 is also significant but with a negative coefficient indicating that this affects the results regarding the full sample. Similar to the full sample findings, the Vuong test comparing the adjusted R^2 of the basic (Eq. 5.9) and the decomposed model (Eq. 5.13) shows significantly higher explanation of the variance between book and market values from the latter. This supports the disaggregation of the book value of equity in 2005 across the reconciliation adjustments.

5.6.3.2 Weighted Least Squares (WLS) regression

The findings of the same tests when a weighted least squares regression is employed are presented in Table 5.7.

Focusing on the full sample results, it is shown that, similar to the previous specification the adjustments regarding IAS 10, IAS 16, and IAS 38 are incrementally value relevant. The sign of the coefficients is also the same. Additionally, under this specification the adjustment with regard to IAS 37 is significant with a negative coefficient. The adjustment relating to the bottom line difference between net income under Greek GAAP and the restated under IFRS is again not significant. With fewer adjustments being significant under this specification, the Vuong test comparing the adjusted R^2 of the basic (Eq. 5.9) and the decomposed model (Eq. 5.13) shows that the explanation of the variance between book and market values from the latter is not significantly higher.

The findings for the sub-sample of large companies show that the adjustments with regard to IAS 16 (at 10%) and IAS 37 (at 1%) are value relevant. Their corresponding coefficients are positive and negative respectively. However, the result with regard to IAS 37 should be interpreted with care. This variable exhibits high multicollinearity with other variables: 18.85. Being well above the threshold of

10, its interpretation is not straight forward.¹²⁵ Additionally, similar to the previous specification, the Vuong test indicates that the 2% difference between the adjusted R^2 of the decomposed model and the basic model is not significant.

As far as the sub-sample of small companies is concerned, it is shown that the adjustment with regard to the IAS 10 is again significant with a positive coefficient (at 1%). Significant is also the adjustment with regard to IAS 38 (at 5%) with a negative coefficient. In addition to the OLS specification, this regression shows that the adjustments regarding IAS 16 and IAS 32&39 are also significant (both at 5%) with positive coefficients. Similar to the corresponding findings based on the OLS specification, the Vuong test comparing the adjusted R^2 of the basic (Eq. 5.9) and the decomposed model (Eq. 5.13) shows significantly higher explanation of the variance between book and market values from the latter. This further supports the disaggregation of the book value of equity in 2005 across the reconciliation adjustments with concerning small companies.

Summarising the findings of the two specifications with regard to the full sample, it is concluded that the adjustments with regard to IAS 10, IAS 16 and IAS 38 are incrementally value relevant (IAS 38 with a negative coefficient). Additionally, as they appear to be significant under one of the two specifications, there is weak evidence that the adjustments with regard to IAS 12, IAS 32&39 and IAS 37 are also incrementally value relevant (IAS 37 with a negative coefficient). Finally, there is weak evidence that the decomposed model (Eq. 5.13) shows significantly higher explanation of the variance between book and market values from the basic (Eq. 5.9), supporting the disaggregation of the book value of equity in 2005 across the reconciliation adjustments. On that basis, hypothesis H5.7 is accepted. Adjustments reported in the reconciliation statements regarding shareholders’ equity are value relevant.

As far as H5.8 is concerned, this is rejected. It is shown that the difference in the coefficients across the two sub-samples is not significant. Thus, it cannot be claimed

¹²⁵ This regression has also been conducted by excluding the variable regarding IAS 37. The significance and the signs of the coefficients of the remaining variables do not change.

that the adjustments with reference to small companies are more value relevant from the corresponding regarding large companies. However, there is strong evidence that the adjustments regarding IAS 10 and IAS 38 are value relevant only for small companies. These are significant under both specifications. Additionally, there is weak evidence that the adjustments regarding IAS 16 and IAS 32&39 are also incrementally value relevant for small companies as these are significant under the WLS regression. Furthermore, there is strong evidence that the difference in the adjusted R^2 between the basic (Eq. 5.9) and the decomposed model (Eq. 5.13) is positive and significant. This shows significantly higher explanation of the variance between book and market values from the latter. This is not the case for large companies.

Arguably, these results are in line with the proposition that, the adjustments with regard to large companies do not add any valuation relevant information to investors. In contrast the reconciliation adjustments convey value relevant information to investors with regard to small companies.

Table 5:6: Incremental value relevance of the impact disclosed in the reconciliation statements: H5.7 & H5.8 (N=153). OLS Regression.

$(5.9): MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3Lambda_{it} + \varepsilon_{it}$ $(5.13): MV_{it} = a_0 + b_1BVE_{it}^{GR} + b_2IAS2_36_{it} + b_3IAS_10_{it} + b_4IAS_12_{it} + b_5IAS_16_{it} + b_6IAS_19_{it} + b_7IAS_20_{it} + b_8IAS32_39_{it} + b_9IAS_37_{it} + b_{10}IAS_38_{it} + b_{11}Other_{it} + b_{12}\Delta BVE_{it}^{IFRS} + b_{13}NI_{it}^{GR} + b_{14}\Delta NI_{it}^{IFRS-GR} + b_{15}\Delta NI_{it}^{IFRS} + b_{16}Lambda + \varepsilon_{it}$							
Variables	Full sample		Large vs. Small				Difference between Large and Small (5.13)
	(5.9)	(5.13)	Above MV Median		Below or Equal MV Median		
	(5.9)	(5.13)	(5.9)	(5.13)	(5.9)	(5.13)	
Intercept	1.777*	2.757***	2.205	1.830	0.410*	0.768	1.062
BVE ^{IFRS}	0.558***		0.513***		0.354***		
NI ^{IFRS}	6.520***		4.343***		3.456***		
BVE ^{GR}		0.416**		0.632**		0.298**	0.334
IAS_2_36		1.839		2.978		-1.154	4.132
IAS_10		8.114*		-7.765		8.906*	-16.670
IAS_12		5.427**		6.682		0.861	5.821
IAS_16		0.968*		1.209		0.311	0.898
IAS_19		2.060		1.499		2.139	-0.641
IAS_20		-0.120		2.315		0.414	1.900
IAS_32_39		3.337***		3.331		0.596	2.735
IAS_37		-2.714		-6.302		0.396	-6.698
IAS_38		-2.491*		-0.498		-2.113***	1.614
Other		3.119*		2.390		0.750	1.639
ΔBVE^{IFRS}		-2.207**		-1.781		1.011	-2.792
NI ^{GR}		7.591***		10.076**		1.811	8.264*
$\Delta NI^{IFRS-GR}$		-2.664		4.769		0.684	4.086
ΔNI^{IFRS}		5.176***		3.901		0.861	3.040
Lambda	-1.571	-7.392**	3.567	3.245	1.501*	-0.941	
F	14.02***	6.02***	10.88***	4.60***	30.54***	28.39***	
Adj R ²	0.44	0.62	0.33	0.41	0.59	0.78	
R ²	0.45	0.66	0.36	0.55	0.61	0.83	0.28
Difference in Adj R ²		0.18***		0.08		0.19***	
Mean VIF		2.24		2.74		2.67	
Max VIF	1.32	3.99	1.48	7.20	1.33	5.02	
N	135	135	68	68	68	68	

*Significant at 10%, **Significant at 5%, ***Significant at 1%. Outliers have been defined and excluded by using Cook's Distance as a measure.

See pages 223 - 225 for variable definitions.

Table 5:7: Incremental value relevance of the impact disclosed in the reconciliation statements: H5.7 & H5.8 (N=153). WLS Regression.

$(5.9): MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3Lambda_{it} + \varepsilon_{it}$ $(5.13): MV_{it} = a_0 + b_1BVE_{it}^{GR} + b_2IAS2_36_{it} + b_3IAS_10_{it} + b_4IAS_12_{it} + b_5IAS_16_{it} + b_6IAS_19_{it} + b_7IAS_20_{it} + b_8IAS32_39_{it} + b_9IAS_37_{it} + b_{10}IAS_38_{it} + b_{11}Other_{it} + b_{12}\Delta BVE_{it}^{IFRS} + b_{13}NI_{it}^{GR} + b_{14}\Delta NI_{it}^{IFRS-GR} + b_{15}\Delta NI_{it}^{IFRS} + b_{16}Lambda + \varepsilon_{it}$							
Variables	Full sample		Large vs. Small				Difference between Large and Small (5.13)
	(5.9)	(5.13)	Above MV Median		Below or Equal MV Median		
	(5.9)	(5.13)	(5.9)	(5.13)	(5.9)	(5.13)	
Intercept	2.043	2.802**	6.634***	5.071	1.580	0.518	4.553
BVE ^{IFRS}	0.533**		0.474		0.336***		
NI ^{IFRS}	3.612**		3.052		2.038		
BVE ^{GR}		0.054		-0.032		0.249***	-0.281
IAS_2_36		0.609		1.432		-0.819	2.252
IAS_10		17.282***		5.046		10.370***	-5.324
IAS_12		2.195		2.661		1.016	1.645
IAS_16		1.305***		1.876*		0.406**	1.470
IAS_19		0.119		0.742		-0.217	0.958
IAS_20		-2.377		-2.264		0.493	-2.758
IAS_32_39		0.150		0.416		0.692**	-0.276
IAS_37		-2.823*		-9.974***		-0.601	-9.373**
IAS_38		-1.920*		-1.024		-1.330**	0.306
Other		-0.146		1.336		0.604*	0.732
ΔBVE^{IFRS}		-0.830		-2.386*		0.317	-2.704**
NI ^{GR}		2.068		6.139*		1.695*	4.443
$\Delta NI^{IFRS-GR}$		-1.227		-1.270		1.130	-2.400
ΔNI^{IFRS}		2.570*		4.225*		0.994	3.231
Lambda	-4.721	-1.013**	-1.593	-2.081	2.790	-0.540	
F	7.55***	17.61***	2.19*	5.76***	43.26***	22.95***	
Adj R ²	0.36	0.48	0.25	0.27	0.46	0.70	
R ²	0.38	0.54	0.28	0.44	0.48	0.77	0.29
Difference in Adj R ²		0.12		0.02		0.24***	
Mean VIF	1.72	2.72	1.80	4.63	1.04	2.58	
Max VIF		5.58		18.85		4.90	
N	135	135	68	68	68	68	

*Significant at 10%, **Significant at 5%, ***Significant at 1%. Outliers have been defined and excluded by using Cook's Distance as a measure.

See pages 223 - 225 for variable definitions.

5.6.3.3 Discussion of the findings regarding H5.7 & H5.8

The above analyses show that the bottom line adjustment to earnings is not significant. This finding is in line with the results of Horton and Serafeim (2007) with reference to Spain and Horton and Serafeim (2009) with reference to the UK. It is also in line with the argument that individual adjustments, rather than the bottom line net adjustments, are likely to provide better information (cf. Beckman et al., 2007). The latter is confirmed by the findings indicating that individual adjustments with regard to shareholders equity are value relevant.

More specifically, the adjustments relating to IAS 38 are significant but with a negative coefficient. This finding is interpreted as follows. IAS 38 removes from the balance sheet certain intangibles, but the market perceives these capitalised expenses as providing future economic benefits and contributing to the growth of companies. Subsequently the market ‘reverses’ these adjustments (recapitalising the intangibles). This is consistent with a large body of research in the US which shows that market participants view Research and Development expenses as intangible assets when valuing a firm (e.g. Xu et al., 2007).

The disaggregation of the sample across large versus small companies illustrates that this finding is mainly driven by the small companies. This is in line with the evidence that book value of equity is more important for valuations of small companies (Ohlson, 1995; Collins et al., 1997). Accordingly, it can be argued that an adjustment with reference to the book value of equity and in particular related to future prospects has profound valuation effects on small companies, for which high growth is expected.

The positive adjustment with regard to IAS 16 is consistently incrementally value relevant with a positive coefficient. This reinforces the notion that IFRS are standards of higher quality, i.e. reflecting companies’ assets (and liabilities) more accurately (cf. Ball, 2006). The fact that the majority of companies followed the

option of IFRS 1 and restated their properties at fair value as deemed cost is perceived by the investors as reflecting companies’ assets more accurately.¹²⁶

The positive adjustment with regard to dividends (IAS 10) is also incrementally value relevant with a positive coefficient. This also is interpreted as investors perceiving that IFRS better reflect a company’s underlying economics (cf. Barth et al., 2001; Barth et al., 2008). Accordingly, investors do not perceive proposed dividends as a liability before they are agreed by the annual general meeting (they were recognised as a liability under Greek GAAP). The adjustment is found to be consistently incrementally value relevant for small companies, indicating that it has more profound relevance for the companies in this sub-sample.

These findings, as well as the weak evidence regarding the incremental value relevance of the adjustments regarding IAS 32&39, IAS 12 and IAS 37, reject the null hypotheses that the reconciliations adjustments not being value relevant (cf. H5.7). They also support the argument for preparing reconciliation statements. These results indicate that the market is interested and responds to the individual changes reported in these statements, using the new information to assess what last year’s financial statements would have been if they had been produced under IFRS.

5.6.4 Value relevance and compliance with IFRS mandatory disclosures (H5.9 – H5.11)

The analyses in this section refer to the same 135 observations examined above. The findings regarding H5.9 – H5.11 are presented in Tables 5.8 and 5.9. The former shows the results regarding H5.9 and the latter the results regarding H5.10 and H5.11. Both tables also include the findings regarding the alternative non-deflated specification used (Barth and Clinch, 2009; Beckman et al., 2007; Harris and Muller, 1999; Barth and Kallapur, 1996). It is to be remembered that the dependent variable and the book values are expressed in millions of euro in this specification and the number of shares outstanding is introduced as a control variable in the regression.

¹²⁶ It is noteworthy that small companies were affected mostly by IAS 16 and IAS 38 (10 more regarding IAS 16 and five more regarding IAS 38).

Additionally, to analyse the findings of this section, one needs to reflect on the findings of chapter 4 with regard to the compliance scores identified for the companies in the sample (4.7.2). These findings indicate that relatively low levels of compliance with IFRS mandatory disclosures were identified and that there was considerable variation of compliance scores. This is particularly relevant to the purposes of the present analyses as it implies that substantially different levels of information reaching investors.

5.6.4.1 Value relevance of compliance with IFRS mandatory disclosures (H5.9)

Focusing on panel A of Table 5.8, as shown previously, when the model is run in its ‘conventional form’ (i.e. not including ‘other information’), the adjusted R^2 is 0.45 and both coefficients of book values of equity and net profit are statistically significant. When the compliance score is introduced as a proxy for ‘other information’, very small change (decrease) is observed regarding the coefficients of book value of shareholders’ equity and net income. Additionally, as was expected, the R^2 is increased marginally because of the introduction of a further variable. With reference to the hypothesis tested, the actual score measured with the PC method is significantly (at 5%) and positively related to market values (and with a relatively high coefficient of 5.900 in particular). Additionally, the F test conducted indicates that its marginal contribution to the regression is significant at 5%. These findings indicate that beyond companies’ fundamentals, the disclosures provided in the notes accompanying the financial statements do convey relevant information to investors.

Very similar results are obtained when the compliance score is calculated with Cooke’s method and used as a proxy for ‘other information’. More specifically, a small change (decrease) is also observed in the coefficients of book value of shareholders’ equity and net income. Additionally, the coefficient of the compliance score is higher (7.403 instead of 5.900) and also significant at 5%. Furthermore, the F test conducted indicates that its marginal contribution to the regression is again significant at 5%.

The corresponding results with the non-deflated specification (panel B) are very similar to those reported in panel A.¹²⁷ When the compliance score is measured with the PC method, it is significantly (at 5%) and positively related to market values. At first glance, the coefficient (396,000,000) seems to be very high. This actually means that a 1% increase in the disclosure level would result in an average increase of almost 4 million euro in a company’s market value. Table 5.2 above shows that the average market value of the companies in the sample is almost 274 million euro. Considering this information, an increase of 1% of the disclosures provided would lead to an approximate average 1.4% increase in the market value.¹²⁸

The results are very similar when the compliance score has been computed with Cooke’s method. The coefficient of the compliance score is also high (552,000,000) and significant at 5%. In both cases, the *F* test conducted indicates that the compliance score’s marginal contribution to the regression is significant at 5%.

These additional tests indicate that the findings are very robust. No bias is introduced because of the specification employed (per share versus non-deflated) or because of the method employed for measuring compliance (PC versus Cooke’s method).

On that basis, hypothesis H5.9 is not rejected: mandatory disclosures do convey relevant information to investors and is relevant for valuation purposes, i.e. compliance with mandatory disclosures is ‘priced’.

¹²⁷ It is noted that the coefficient book value of shareholders’ equity is negative and non-significant. According to Easton and Sommers (2003), this is a potential deficiency of the non-deflated specification and that is why they argue that ‘coefficient bias may lead to spurious inferences in un-deflated price-levels regressions’ (ibid: 47).

¹²⁸ It is to be remembered that the review of the relevant literature (5.4.2.2) indicated that it is very common the proxies used for ‘other information’ to exhibit very large coefficients.

Table 5:8: Value relevance of compliance with IFRS mandatory disclosures (N=135)

$(5.9): MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3Lambda_{it} + \varepsilon_{it}$ $(5.14): MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3CS_{it} + b_4Lambda + \varepsilon_{it}$												
Panel A: Value relevance of compliance with IFRS mandatory disclosures – per-share specification												
Compliance score	Model	Intercept	BVE	NI	CS	No. Shares [†]	Lambda	F	Adj. R ²	R ²	Max VIF	N
	(5.9)	1.777*	0.558***	6.520***		n/a	-1.571	14.02***	0.45	0.45	1.32	135
PC method	(5.14)	-3.340	0.557***	6.515***	5.900**	n/a	0.662	13.60***	0.45	0.47	1.33	135
Cooke's method	(5.14)	-4.672	0.539***	6.367***	7.403**	n/a	0.246	13.01***	0.45	0.47	1.33	135
Panel B: Value relevance of compliance with IFRS mandatory disclosures – non-deflated specification [†]												
Compliance score	Model	Intercept	BVE	NI	CS	No. Shares [†]	Lambda	F	Adj. R ²	R ²	Max VIF	N
	(5.9)	-1.95e+08**	-0.391	5.437***		8.165***	3.72e+08	32.44***	0.72	0.73	2.16	135
PC method	(5.14)	-5.43e+08**	-0.371	5.481***	3.96e+08**	8.154***	5.35e+08*	39.77***	0.73	0.74	2.17	135
Cooke's method	(5.9)	-6.91e+08**	-0.382	5.349***	5.52e+08**	8.261***	5.41e+08**	35.64***	0.73	0.74	2.16	135

[†]In a non-deflated specification, the total number of shares outstanding is introduced in the regression as a control variable.

Variable definitions: MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the 2005 financial period (t); BVE_{it} is the book value of net assets of company i at the end of 2005 (t); NI_{it} is the net profit after tax of company i at the end of 2005 (t); $No. Shares$ is the number of shares outstanding; CS_{it} is the compliance score with IFRS' mandatory disclosures of company i in 2005 (t); $Lambda$ is the IMR calculated through the selection model; and ε_{it} is the mean zero disturbance term. Outliers have been defined and excluded by using Cook's Distance as a measure.

*Significant at 10%, **Significant at 5%, ***Significant at 1%.

5.6.4.2 Discussion of the findings regarding H5.9

Hypothesis 5.9 explores the importance of mandatory disclosures for valuation purposes (cf. Hassan et al., 2009; Bushee and Leuz, 2005; Kang and Pang, 2005).

These results indicate that, within the theoretical framework of the Ohlson (1995) Model (OM), compliance with mandatory disclosures does convey information to investors which assists in predicting future earnings (Ohlson, 2001). Accordingly, the compliance score can be a suitable proxy for v in the OM.

This finding implies that companies with higher compliance exhibit higher market values, i.e. they are better off. It appears that in the particular context of Greece, where compliance with IFRS is in practice voluntary (as companies extent of compliance is very low (cf. Nobes and Parker, 2008)) and non-compliance costs are negligible in the period of reference, investors do value higher compliance. Thus, high compliance companies are perceived as ‘good’ and ‘responsible’, representing ‘good practice’ and consequently are ‘rewarded’ by investors (cf. Goncharov et al., 2006).

Arguably, consistent with the premises of signalling theory, companies with higher compliance levels ‘take advantage’ of the weak enforcement by making the effort and/or incurring the necessary high information costs to comply and consequently differentiate themselves. This appears to have ‘rewarding’ implications and to be in line with the ‘free market theory’ where transmission of reliable information plays a crucial role. For example, Friedman and Friedman (1980: 37) argue that ‘...the beauty of the market system is that the price which brings the information also provides an incentive to act on it’ (cited in Leventis, 2001: 20).

The present finding is consistent with prior literature regarding the positive valuation consequences of voluntary disclosures (e.g. Hussainey and Walker, 2009). It is also consistent with the results of Goncharov et al. (2006) with regard to compliance with the corporate governance code in Germany.

However, it contradicts the findings of Hassan et al. (2009) with reference to Egypt. The authors report a negative relationship between market values and compliance levels (although they use a different research design). An explanation might be that the Greek market is developed while Egypt is an emerging market. Thus, there may be higher demand for more transparent financial statements in Greece due to the potentially more sophisticated investors and analysts following listed companies (cf. Keane, 1993). Another reason might be the different periods covered. Hassan’s et al. (2009) study examines Egyptian companies’ compliance for the years 1995 to 2002 which might have led to different disclosures mandated by IAS at that time, compared to those examined here. Finally, their research instrument with regard to mandatory disclosures includes 49 items. This is substantially lower from the number of items examined in this study (481).

5.6.4.3 Value relevance of high versus low compliance companies (H5.10 & H5.11)

The results discussed in this section refer to the same 135 observations. Table 5.9 reports the findings regarding the value relevance of accounting information of high compliance versus that of low compliance companies.

Beyond the pricing effect of compliance indicated above, it is shown that high compliance scores and in turn high level of disclosures lead to more transparent financial statements (cf. Pownall and Schipper, 1999), mitigating uncertainty about companies’ fundamentals (Anctil et al., 2004; Hope, 2003a). This follows the premise that higher disclosure levels should lower information asymmetry in general (cf. Diamond and Verrecchia, 1991) and that higher compliance with mandatory disclosures reduces information asymmetry in particular (Bushee and Leuz (2005).

More specifically, it is observed that the relative value relevance of accounting information of high compliance companies is higher than that of the remaining companies by 0.07. However, Cramer’s Z statistic indicates that this difference is not significant. Similarly, when the compliance scores are measured by Cooke’s method, the relative value relevance (i.e. R^2) of the high compliance companies is also higher by 0.09 but again not significantly higher. Although even under the non-deflated

specification such difference is reported, it is also non-significant. The fact that this difference is not significant might be due to the relatively small number of observations within the sub-samples, which reduces the power of the test (cf. Hung and Subramanyam, 2007 with reference to Cramer, 1987). Thus, although H5.10 is not accepted, there is weak evidence that the relative value relevance is higher when companies’ levels of mandatory disclosures are higher.

However, the tests regarding H5.11 shed more light on the subject. When the compliance score is measured by the PC method, the valuation coefficient of shareholders’ equity of high compliance companies is significantly (at 5%) higher (by 0.593) than that of the remaining companies. In fact, the book value of shareholders’ equity of low compliance companies is very small and not significant. When the compliance score is measured by Cooke’s method, the coefficient of book value of shareholders’ equity of high compliance companies is again significantly higher (by 0.555). However, this difference is significant at 10% (compared to 5% when using the PC method).

These findings are in line with what is reported under the non-deflated specification. When the compliance score is measured by the PC method, the coefficient of shareholders’ equity of high compliance companies is again significantly (at 1%) higher (by 0.177). When the alternative technique for measuring compliance is used, the coefficient of shareholders’ equity of high compliance firms is significantly (at 5%) higher (by 0.107).

As far as the coefficient of net income is concerned, it is shown that there is no significant difference between low and high compliance companies. This is consistent irrespective of the type of specification used or the method with which the compliance score has been computed. On the basis of these findings, it is concluded that the research hypothesis (H5.11) is partially rejected: only the valuation coefficient of book value of shareholders’ equity is higher for high compliance firms.

Table 5:9: Value relevance of high compliance versus low compliance companies (N=135)

$(5.9): MV_{it} = a_0 + b_1BVE_{it} + b_2NI_{it} + b_3Lambda_{it} + \varepsilon_{it}$ $(5.14): MV_{it} = a_0 + b_1DV + b_2BVE_{it} + b_3BVE_{it} * DV + b_4NI_{it} + b_5NI_{it} * DV + b_6Lambda + b_7Lambda * DV + \varepsilon_{it}$												
<i>Panel A: Value relevance of high compliance vs. low compliance companies – per-share specification</i>												
<i>Compliance score</i>	<i>Sample</i>	<i>Model</i>	<i>Intercept</i>	<i>BVE</i>	<i>NI</i>	<i>No. Shares[†]</i>	<i>Lambda</i>	<i>F</i>	<i>Adj. R²</i>	<i>R²</i>	<i>Max VIF</i>	<i>N</i>
<i>PC method</i>	<i>Higher CS</i>	(5.9)	1.183	0.730***	6.538***	n/a	1.327	19.16***	0.45	0.47	1.30	68
	<i>Lower CS</i>	(5.9)	2.661	0.137	6.493***	n/a	-3.242	13.89***	0.37	0.40	1.28	67
	<i>Difference</i>	(5.15)		-0.593**	-0.045						-0.07	
<i>Cooke's method</i>	<i>Higher CS</i>	(5.9)	1.114	0.750***	6.522***	n/a	1.605	19.74***	0.46	0.48	1.35	68
	<i>Lower CS</i>	(5.9)	2.593**	0.195	6.231***	n/a	-3.429	13.50***	0.36	0.39	1.23	67
	<i>Difference</i>	(5.15)		-0.555*	-0.291						-0.09	
<i>Panel B: Value relevance of high compliance vs. low compliance companies – non-deflated specification[†]</i>												
<i>Compliance score</i>	<i>Sample</i>	<i>Model</i>	<i>Intercept</i>	<i>BVE</i>	<i>NI</i>	<i>No. Shares[†]</i>	<i>Lambda</i>	<i>F</i>	<i>Adj. R²</i>	<i>R²</i>	<i>Max VIF</i>	<i>N</i>
<i>PC method</i>	<i>Higher CS</i>	(5.9)	-2.54e+08***	-0.418*	6.820**	9.195***	6.38e+08**	61.40***	0.78	0.80	2.36	68
	<i>Lower CS</i>	(5.9)	9.16e+07*	-0.595***	9.230***	2.879***	-3.26e+08*	43.90***	0.74	0.72	2.30	67
	<i>Difference</i>			-0.177***	2.410						-0.08	
<i>Cooke's method</i>	<i>Higher CS</i>	(5.9)	-2.41e+08***	-0.456*	7.287*	9.200***	5.86e+08**	62.12***	0.78	0.80	2.41	68
	<i>Lower CS</i>	(5.9)	9.09e+07*	-0.563***	9.080***	2.774***	-3.15e+08*	41.89***	0.71	0.73	2.24	67
	<i>Difference</i>			-0.107**	1.793						-0.07	

[†]In a non-deflated specification the total number of shares outstanding is introduced in the regression as a control variable.

Variable definitions: MV_{it} is the market value of a company i one month after the publication of the financial statements relating to the 2005 financial period (t); BVE_{it} is the book value of net assets of company i at the end of 2005 (t); NI_{it} is the net profit after tax of company i at the end of 2005 (t); *No. Shares* is the number of shares outstanding; *Lambda* is the IMR calculated through the selection model; and ε_{it} is the mean zero disturbance term. Outliers have been defined and excluded by using Cook's Distance as a measure. *Significant at 10%, **Significant at 5%, ***Significant at 1%.

5.6.4.4 Discussion of the findings regarding H5.10 & H5.11

The findings regarding H5.10 and H5.11 complement those discussed in the previous section and they are particularly relevant in the context of Greece. As discussed above, the literature indicates that under Greek GAAP there was high level of earnings management with regard to balance sheet (Spathis, 2002; Spathis et al., 2002; Baralexis, 2004). Additionally, Greece represents a low trust society in general which is detrimental to trust in the ‘true and fair view’ of financial statements. An explicit mistrust of the accounting numbers published has been consistently documented in the literature with regard to Greece (e.g. Papas, 1993; Ballas, 1994; Ballas et al., 1998; Kontoyannis, 2005; Tsakumis, 2007). Arguably, the low trust in the financial statements was also a result of the low levels of mandatory disclosures required under Greek GAAP. This was even further worsening by the fact that companies tended not to disclose the notes to the financial statements in the public domain before IFRS (Valchos, 2001). This enabled companies to be secretive regarding the accounting policies and practices followed as well as the significant assumptions used while preparing their financial statements.

Some examples regarding the information not provided to investors under Greek GAAP which could lead to low trust in the financial statements include the following, but are not exhaustive: provisions not recognised, including those related to pensions; revenue recognition policies; inventories’ and other assets’ impairment; start-up costs capitalised; hedging activities and fair values of financial assets not recognised; and disclosures in respect of contingent assets and/or liabilities (cf. Tsakumis, 2007). These areas are related to the areas of creative accounting practices followed and expected to be curtailed with the introduction of IFRS (3.4.2). Not disclosing information regarding the above issues could allow more flexibility regarding the actual items recognised (or not) in the financial statements.

However, the mandatory disclosures required by IFRS ‘force’ companies to disclose more information regarding the preparation of the financial statements and thus ‘more complete’ information reaches investors (cf. Daske and Gebhardt, 2006). In

favour of this argument, (Hope, 2003b: 317) states that disclosing the accounting policies followed ‘could constrain some potentially harmful managerial actions’.

The findings of the previous chapter (4.7.3) indicate that standards that introduced new measurement and/or recognition requirements compared to Greek GAAP, exhibit very low average levels of compliance. They also exhibit significantly high variability of compliance scores. Similar is the case for the standards require disclosures that involve high proprietary costs. Thus, a large proportion of the companies examined, continue to be secretive about their policies, especially with regard to issues that relate to future prospects.

Hence, companies providing high levels of mandatory disclosures have the opportunity to signal less earnings management and to communicate their practices in a more transparent way under IFRS.¹²⁹ Thus, consistent with the previous finding that investors place value on mandatory disclosures, investors do assign (higher) value on the book value of shareholders’ equity of high compliance companies. This indicates that higher compliance with mandatory disclosures mitigates uncertainty about companies’ economic situation in general (cf. Hope, 2003a) and the quality of the accounting information reflected on the financial statements in particular (Anctil et al. 2004). Accordingly, improved disclosure reduces information asymmetry (cf. Bushee and Leuz, 2005) and more weight is placed on companies’ fundamentals (i.e. shareholders’ equity in the case of Greece).

Summarising, drawing on Leuz and Wysocki’s (2008) call for research, the findings of the present study suggest that mandatory disclosures do feed back information to investors. The level of mandatory disclosures is positively related to market values. Additionally, the higher the compliance with mandatory disclosures, the higher the value relevance of the book value of shareholders’ equity.

¹²⁹ This could well be the case under Greek GAAP providing that companies complied with the mandatory disclosures and produced informative notes to the financial statements being available to the public domain.

5.7 Limitations

The findings reported in the present chapter are subject to the following limitations.

In line with similar value relevance studies, it is assumed that investors understand and evaluate the implications and effects of IFRS. Arguably, this may not be completely the case where IFRS are introduced for the first time in a country with a substantially different accounting tradition. Further, IFRS did lead to greater variance in the book value of shareholders’ equity and earnings compared to previous Greek GAAP measures (see Table 5.2).¹³⁰ Additionally, it is possible that some of the sample firms gradually transitioned to IFRS, narrowing the differences between Greek GAAP and IFRS. This could potentially lower the power of the tests leading to no significant change in the value relevance of accounting information after the adoption of IFRS.

A reason for not finding significant change in the value relevance of accounting information might be the relatively small sample which limits the power of the tests (cf. Hung and Subramanyam, 2007). This limitation also applies when examining the incremental value relevance of the reconciliation adjustments across the sub-samples and the relative value relevance of high versus low compliance companies.

Further, as Barth et al. (2008) suggest ‘(A) limitation of comparing the accounting quality of IAS firms in the pre and post adoption periods is that we could detect an improvement in accounting quality because of changes in the economic environment of IAS firms unattributable to the financial reporting system.’ (ibid: 480).¹³¹ Contrary to Barth et al. (2008), this study is not looking at IFRS vs. non-IFRS adoption, a context that allows a treatment-control sample design. The pre-post design uses the firm as its own control. Additionally, the dummy variable design employed in this study includes an intercept dummy which captures other changes between 2004 and 2005 non attributable to the financial reporting system. This leaves the slope dummy

¹³⁰ I am in debt to one anonymous reviewer for pointing this out.

¹³¹ I am in debt to Pauline Weetman for pointing this limitation out.

to capture changes in the mapping of book value of shareholders’ equity and net income into market value from 2004 to 2005.

Additionally, inadequate reconciliation disclosures in companies’ first IFRS statements were reported. Selective or incomplete reporting/disclosure with regard to transition to IFRS may mislead investors with reference to the implications of IFRS implementation. Furthermore, the analyses reported in chapter 4 indicate that the overall levels of compliance with IFRS were relatively low for a large proportion of the companies. This may distort the findings regarding the incremental value relevance of the adjustments reported in the reconciliation items.

A further limitation of the present research is that it examines the incremental value relevance of the adjustments reported in shareholders’ equity reconciliation statements. Companies’ inadequate disclosures regarding the corresponding adjustments with reference to income did not allow for the examination of the incremental value relevance of those adjustments as well.

Moreover, as discussed previously, although the necessary procedures and specific criteria were followed, measuring compliance with mandatory disclosure requirements always entails a degree of subjectivity. This may hinder replication of the study with regard to the value relevance of companies’ compliance with IFRS.

Finally, although a relatively large sample is used, the study focuses only on one year, with reference to the value relevance of compliance with IFRS disclosure requirements. Thus, the results may be time specific, i.e. first year of mandatory implementation of IFRS. It is probable that companies’ disclosures would increase in the following years (cf. Hassan et al., 2006; Peng et al., 2008) and thus the large variability of the level of information reaching investors may decrease. Arguably, although this may affect the value relevance of compliance with mandatory disclosures *per se* it should have no impact on the analyses regarding the difference in the valuation coefficients of high versus low compliance companies.

5.8 Conclusions

This final part of the study provides answers to three of the six research questions of this thesis, namely Q4, Q5 and Q6. With regard to Q4, the study builds on and contributes to literature suggesting that Anglo-Saxon, shareholder oriented accounting regimes (such as IFRS) provide more value relevant accounting information than the stakeholder regimes in Continental Europe (cf. Ali and Hwang, 2000; King and Langli, 1998). It also informs the literature examining the value relevance of accounting information after the mandatory implementation of IFRS in EU (cf. Capkun et al., 2008; Paananen, 2008). With regard to Q5, it builds on and contributes to literature suggesting the information provided in companies’ reconciliation statements is value relevant (cf. Niskanen, 2000; Beckman, 2007; Horton and Serafeim, 2009). As far as Q6 is concerned, this part of the thesis addresses recent calls for research regarding the lack of empirical evidence of the valuation effects of mandatory disclosures (cf. Hassan et al., 2009; Leuz and Wysocki, 2008; Bushee and Leuz, 2005; Kang and Pang, 2005).

The first objective was to examine any change in the valuation coefficients of book value of shareholders’ equity and net income after the implementation of IFRS. The second objective was to examine any change in the relative value relevance of accounting information after the adoption of IFRS. This analysis was partitioned across the sub-samples of large versus small companies and companies with a ‘Big 4’ auditor and a non-‘Big 4’ audit firm.

The findings suggest that there is no change in the valuation coefficient of book values of shareholders’ equity after the adoption of IFRS. Additionally, a non-significant decrease, in the relative value relevance of accounting information is observed. These results hold independent of factors which might be perceived to affect the quality of accounting information (i.e. firm size and audit quality). However, there is weak evidence that after the switch to IFRS investors continue to give higher weight to earnings produced by firms having a ‘Big 4’ auditor.

Overall, these results suggest that the change in accounting standards is not a sufficient condition for changing the market participants’ perception about the value relevance of the accounting information. They do not support the assumption that accounting quality improves after the adoption of IFRS, at least not if accounting quality is defined as the association between book and market values (Paananen, 2008; Horton and Serafeim, 2009; Barth et al., 2008). This may not be surprising for the Greek context if one considers the particular features of the country. The consistent arguments of the prior literature, suggesting an explicit mistrust of the accounting numbers published, are in favour of the present findings.

These findings are particularly relevant to standard setters (Barth et al., 2001). They also contribute to the debate on whether shareholder-focused accounting principles are more value relevant than traditional continental European accounting regulations. At least in the case of Greece, it is evident from the present study that this is not so.

The third objective was to examine the incremental value relevance of the adjustments reported in the reconciliation statements required by IFRS 1. This was particularly relevant in the present context because there was the expectation that the adoption of particular IFRS would curtail previous creative accounting practices (see also chapter 3).

The results show that, with regard to the full sample, the adjustments resulting from IAS 10 and IAS 16 are (positively) incrementally value relevant. It is noteworthy that the adjustment with regard to IAS 38 is also incrementally value relevant but with a negative coefficient. These results are driven by the sub-sample of small companies for which similar findings are reported. The results regarding large companies are inconclusive. Additionally, there is weak evidence that the adjustments regarding IAS 12, IAS 37 and IAS 32&39 are positively and significantly value relevant.

Although findings with regard to the previous objective suggest that the participants in the Greek market do not change their attitude towards book values because these are now produced under IFRS (i.e. relative value relevance), these findings do suggest that investors process the information reported within the transitional

reconciliation statements. This is in line with Alciatore (1993) who concludes that the market assigns value to information explaining how and why a net change reported has arisen. Consequently, the identification of incremental value relevance of the individual adjustments supports the usefulness of the reconciliation statements, at least as far as Greece is concerned.

The fourth objective was to examine the valuation implications of mandatory disclosures. This was first pursued by implementing the Ohlson (1995) Model while using companies’ levels of compliance as a proxy for ‘other information’. Subsequently, any potential difference in the valuation coefficients of high versus low compliance companies was examined.

The robust findings suggest that investors do place value on mandatory disclosures. The level of mandatory disclosures is positively related to market values. This appears to be consistent with the premises of signalling and free market theories. Companies with higher compliance levels ‘screen’ themselves and this has ‘rewarding’ implications. Additionally, it is shown that investors do assign (higher) value on the book value of shareholders’ equity of high compliance companies. This indicates that higher compliance with mandatory disclosures reduces information asymmetry (cf. Bushee and Leuz, 2005) and mitigates uncertainty about companies’ fundamentals (Anctil et al. 2004). In conclusion, drawing on Leuz and Wysocki’s (2008) call for research, the findings of the present study suggest that mandatory disclosures do have valuation effects.

Chapter 6 - Concluding Remarks

6.1 Introduction

After long debates and attempts for achieving accounting harmonisation and comparability across the companies within the EU, since January 1st 2005, all EU listed companies are required to prepare consolidated accounts on the basis of IFRS. This development has been described as the most significant event in the history of financial reporting. Considering the subsequent ‘concerns’ expressed and the research opportunities suggested by the recent literature, the present study examined several dimensions relating to the mandatory adoption of IFRS by Greek listed companies. The present research intentionally focused on the first year of mandatory IFRS implementation not only investigating several issues independently but also exploring the links between them.

This chapter provides the concluding remarks of this thesis. A summary of the research objectives, questions, and methods is initially provided (section 6.2). Then, a summary of the key research findings and their implications is discussed (section 6.3). The summary of the limitations of the study follow (section 6.4). Finally, opportunities for further research are highlighted (section 6.5).

6.2 Summary of Research Objectives, Questions, and Approach

6.2.1 Research objectives

Considering the Greek financial reporting system, the timing of the research (i.e. first year of IFRS implementation) and the suggested opportunities for research, the present study pursued the following objectives:

- To make a contribution to the relevant international accounting literature on the financial statement effects of transition to IFRS.

- To make a contribution to the relevant literature regarding compliance with mandatory disclosures in general and after IFRS implementation in the EU in particular.
- To make a contribution to the literature regarding the methods for measuring compliance with accounting standards' mandatory disclosures.
- To make a contribution to the literature regarding disclosure theories via the exploration of proxies for the factors explaining compliance with accounting standards' mandatory disclosure.
- To make a contribution to the literature regarding value relevance research and valuation theory using the Ohlson (1995) model.
- To make a contribution to the literature regarding effects of IFRS implementation on the relative and incremental value relevance of accounting information.
- To make a contribution to the literature regarding the valuation implications of mandatory disclosures.

6.2.2 Research questions

The research objectives set are informed by providing answers to the six research questions explored in this thesis:

- Q1. Was the impact of transition to IFRS on Greek listed companies material and statistically significant?
- Q2. To what extent did Greek listed companies comply with IFRS mandatory disclosures, during the first year of IFRS adoption?
- Q3. Which factors explain Greek listed companies' compliance with IFRS mandatory disclosures?

- Q4. Is there a change in the accounting quality (defined as the value relevance of accounting information) after the mandatory adoption of IFRS in Greece?
- Q5. Is the information reported within shareholders' equity reconciliation statements of Greek listed companies incrementally value relevant to the 2005 book values?
- Q6. What are the valuation implications of IFRS mandatory disclosures in Greece?

6.2.3 Research approach

6.2.3.1 Research question 1

To provide an answer to Q1, Gray's comparability index was employed on the basis of a sample of 238 companies (i.e. approximately 75% of the Greek listed companies in March 2006). Breaking the index down into partial indices also permitted the measurement of the impact of specific IFRS. Additionally, the present research expands on previous studies by exploring the impact of IFRS recognition and measurement requirements on gearing and liquidity. By measuring the impact of transition by means of a commonly applied index, the study also provided a benchmark for comparison with studies examining the impact of mandatory transition in other countries, especially those with stakeholder accounting regimes such as Germany, France and Italy. Considering the evidence provided in the literature regarding the relationship between audit firm size and earnings management in Greece, the results have been disaggregated across the sub-samples of companies with 'Big 4' and non-'Big 4' auditors.

6.2.3.2 Research question 2

To provide an answer to Q2, a disclosure index containing all the disclosure items mandated by the IFRS extant at the end of 2006 was constructed. Based on this research instrument, and the two disclosure index methods employed (namely the PC method (Street and Gray, 2001; Al-Shiab, 2003) and the commonly used dichotomous approach, 153 Greek listed companies' compliance with IFRS

mandatory disclosures in their first year of implementation was examined. This sample represents approximately 48% of the Greek listed companies in March 2006.

6.2.3.3 Research question 3

To provide an answer to Q3, first a review of the relevant disclosure theories was conducted. On that basis, drawing on capital market based theories, agency theory, and cost based theories, the features of the Greek financial reporting system, and considerations regarding the timing of the research *a priori* expectations regarding the factors explaining compliance with the mandatory disclosures were established. Subsequently, 8 variables were tested as proxies for the factors related to the compliance identified. These factors include size, gearing, profitability, liquidity, industry and audit firm size as well as the impact on 2004 shareholders' equity and net income reported as reported in companies' reconciliation statements. The significance of the association of the above characteristics and the compliance levels identified was assessed by conducting both univariate (parametric) and multivariate analyses (OLS regressions).

6.2.3.4 Research question 4

The present study perceives accounting quality *inter alia* as the association between book values and market values i.e. value relevance of accounting information. Consistent with the relevant literature, the Ohlson (1995) model (OM) was employed to provide an answer to Q4. These analyses were focused on the same 153 companies examined for providing an answer to Q2 and Q3. In particular, two dimensions related to the change of the value relevance of accounting information of Greek listed companies were examined. First, any change in the valuation coefficients of book values of shareholders' equity and net income between 2004 and 2005 was examined. Panel data analyses were used for this examination. Second, any change in the relative value relevance (i.e. R2) between 2004 and 2005 was examined. These analyses were performed by using Cramer's Z statistic (Cramer, 1987). All analyses were partitioned across the sub-samples of large versus small companies and companies with 'Big 4' versus non-'Big 4' auditors. This facilitated the exploration

of other factors which may influence the value relevance of accounting information in general and in Greece in particular.

6.2.3.5 Research question 5

To provide an answer to Q5, the present study also employed the OM. More specifically, focusing only on 2005, the book value of shareholders' equity was decomposed across the adjustments resulted from the adoption of individual IFRS, on transition to the new accounting regime. These were the following ten items: impact from IAS 2 and IAS 36 (aggregate because they both deal with impairment of assets); IAS 10; IAS 12; IAS 16; IAS 19; IAS 20; IAS 32/39 (joint as companies tended to disclose this impact jointly); IAS 37; IAS 38; and the sum of the impact from all other standards (Other). This analysis is also partitioned across the sub-samples of large versus small companies.

6.2.3.6 Research question 6

Finally, to provide an answer to Q6, three approaches were followed. First, the extent of companies' compliance with IFRS mandatory disclosures, with regard to 2005, was introduced to the OM as a proxy for 'other information'. Second, any differences in the relative value relevance (i.e. R^2) of the high compliance versus low compliance companies were examined. Third, any differences in the valuation coefficients of high versus low compliance companies were also examined.

6.3 Research Findings, Contribution and Implications

6.3.1 Summary of findings

6.3.1.1 IFRS and financial statements effects (Q1)

The analyses in chapter 3 reveal the following (see sections 3.7, 3.8 and 3.9 for more details). It is found that implementation of IFRS had a significant impact on the financial position and reported performance as well as on gearing and liquidity ratios, of Greek listed companies. On average, a positive adjustment on shareholders' equity

and net income is identified (immaterial and material respectively). With regard to gearing and liquidity, the impact was a negative adjustment (material and immaterial respectively, on average). Additionally, only companies with non-‘Big 4’ auditors faced significant impact on net profit and liquidity on transition to IFRS. They also faced a significantly greater impact on gearing than companies with ‘Big 4’ auditors. However, the large number of companies materially affected with reference to all measures examined is somewhat surprising. (Note that the thresholds of materiality do not coincide with those of statistical significance.)

Reflecting on the features of the Greek context (as these are discussed in chapter 2) the following inferences can be made. With respect to shareholders’ equity, the findings support the notion that Greek GAAP is in fact less conservative than IFRS, as applied (*de facto*) in this context of transition. A large number of companies with material negative changes are identified and explanations support this finding. Seven standards which cause a significant negative impact on companies’ net assets and which appear to be reducing certain creative accounting practices previously followed under Greek GAAP (Polychroniadis, 2002; Spathis, 2002; Spathis et al., 2002; Baralexis, 2004) are identified. For some of these standards, the impact was either significant, or only greater, for companies with non-‘Big 4’ auditors.

These findings are particularly important for several reasons. *First*, they suggest that reporting quality has improved under the new accounting regime. *Second*, they confirm the expectations that Greek listed companies’ financial statements would be affected significantly from the adoption of IFRS because of the substantial differences between Greek GAAP and IFRS. *Third*, such a significant change on companies’ financial statements may affect contractual obligations and debt covenants (Ormrod and Taylor, 2004).

6.3.1.2 Compliance with IFRS mandatory disclosures and its explanatory factors (Q2 & Q3)

The analyses in chapter (4) reveal the following (see sections 4.7.2, 4.7.3, 4.7.5 & 4.7.6 for more details). They illustrate a relatively low average level of compliance

with IFRS mandatory disclosures in 2005 by Greek listed companies. This approximates to 80% (actual levels depend on the method employed for measuring compliance) (Q2). It is also indicative that there is considerable variation in the compliance scores identified: standard deviations are 10% or 8%, depending on the method employed for measuring compliance.

Further analyses, on a standard by standard basis, indicate that standards that introduced new measurement and/or recognition requirements compared to Greek GAAP, exhibit very low average levels of compliance. They also exhibit significantly high variability of compliance scores. Similar is the case for the standards that require disclosures that involve high proprietary costs. Some examples include the following standards: IAS 40; IFRS 3; IAS 14; IAS 37; IAS 19; IAS 28; IAS 17; and IAS 36. Additionally, there were several instances where companies did not provide any of the information required by specific standards. In contrast, the cases where companies complied fully with the requirements of some standards were rare.¹³²

A level of non-compliance with disclosure requirements in the Greek context ('low trust' society, low importance of the 'true and fair view', high ownership concentration) might be expected. However, a large number of companies exhibit very low compliance levels. For example, if somebody does not consider the disclosure requirements regarding IAS 1, more than 20% of the companies examined exhibit less than 60% compliance with IFRS requirements. These compliance levels, which may be considered low for a developed market, reflect on the lenient approach of the regulator regarding compliance with IFRS during the initial period of their implementation. (See section 4.7.2 for more details.)

As far as Q3 is concerned, the present study provides strong evidence that companies having the following characteristics comply most with IFRS mandatory disclosures in 2005: those having a 'Big 4' auditor; those exhibited more positive changes in

¹³² To the extreme, the analyses in chapter 3 identified a very high level of non-compliance with IFRS 1 requirements: 42 companies either did not provide reconciliation statements for shareholders' equity and/or net income or the statements provided were of a very poor quality. This appears to be related to the type of audit firm.

their restated IFRS 2004 net profit figure; and those exhibited more negative changes in their restated IFRS 2004 shareholders' equity figure. It is also shown that larger companies exhibit higher compliance levels. However, this association between size and compliance levels is found to be significant only in the univariate analyses.

These findings are informed by the particular context of Greece and can be interpreted with the propositions of signalling, agency, and political costs theories (see section 4.5 for development of hypotheses and section 4.7.7 for interpretation of findings). More specifically, with regard to the two restated measures, there have been consistent findings of earnings management by Greek listed companies. As discussed above, the areas of creative accounting practices followed under Greek GAAP were curtailed with the introduction of IFRS causing a significant impact on companies' financial statements. Accordingly, these findings indicate that such a significant change, in companies' restated measures, has acted as a driving factor for companies' compliance with IFRS overall mandatory disclosure requirements in 2005. On that basis, the results of this study indicate that the compliance risks that managers bear are heavily dependent on the impact caused on their companies' financial position and performance, as a result of the adoption of IFRS.

With reference to agency theory, company managers may well be under pressure to 'communicate' and explain why their financial position appears to be worse under the higher quality accounting standards (i.e. IFRS) which are believed to reflect companies' assets and liabilities more accurately. They would also be under pressure to 'communicate' the reasons for such an improvement in companies' restated profitability. This would pre-empt allegation that such a significant change is due to fraudulent accounting practices (i.e. 'transitional big bath') leading to misleading perceptions about companies' profitability levels.

As far as signalling theory is concerned, this would suggest that management provides extended levels of compliance to 'communicate' that previous year's performance was low because Greek GAAP was of poor quality. Accordingly, low profitability had not been reported because of their inefficiency but it was due to the

fact that the previous accounting regime produced conservative reported performance. In this way, the managers of these companies try to 'screen' their companies from those remaining (i.e. the majority) which faced a negative change.

Finally, in line with the premises of political costs theory, a significantly positive change in profitability could well be interpreted as companies intentionally reporting lower profits under Greek GAAP so as not to attract the public eye. Accordingly, companies facing a positive change in profitability might be more concerned that this change may trigger political action with reference to past performance and thus provide higher compliance levels to avoid political action.

As far as audit firm size is concerned, higher earnings management as well as lower audit effort are well documented for companies with small auditors in Greece. Accordingly, it is not surprising the companies with a 'Big 4' auditor to exhibit also higher levels of compliance with IFRS mandatory disclosures. Thus, employing a 'Big 4' audit firm acts as a monitoring mechanism and satisfies the need for transparency and better quality financial statements. This leads to a reduction of agency costs. These findings support the argument that large and international audit companies may have greater competence and expertise on IFRS (cf. Dumontier and Raffournier, 1998), resulting in higher levels of compliance. They may also suggest that larger audit firms conduct higher audits in order to avoid jeopardising their reputation.

Additionally, managers may also intentionally employ a 'Big 4' audit firm as a signal of high accounting quality. This would allow them to 'screen' their companies from those employing a small audit firm which are associated with higher earnings management as well as lower audit effort. At the same time, employing a 'Big 4' may indeed result in higher compliance with mandatory disclosures (as a result of the auditors' expertise).

6.3.1.3 IFRS and value relevance (Q4, Q5 & Q6)

The analyses in chapter (5) reveal the following. The findings suggest that there is no

change in the relative value relevance of accounting information. Although surprising, this is in line with recent literature (e.g. Clarkson et al., 2008). Additionally, no significant increases in the valuation coefficients of book values are identified. These results hold independent of factors which might be perceived to affect the quality of accounting information (i.e. firm size and audit quality). However, there is weak evidence that after the switch to IFRS investors continue to give higher weight to earnings produced by firms having a 'Big 4' auditor.

Overall, these results suggest that the change in accounting standards is not a sufficient condition for changing the market participants' perception about the value relevance of the accounting information. They do not support the assumption that accounting quality improves after the adoption of IFRS, at least not if accounting quality is defined as the association between book and market values (Paananen, 2008; Horton and Serafeim, 2009; Barth et al., 2008). This may not be surprising for the Greek context if one considers the particular features of the country. The consistent arguments of the prior literature suggesting an explicit mistrust of the accounting numbers published, the lenient approach of the HCMC over incidents of non-compliance as well as the problems of preparing the first IFRS financial statements are in favour of the present findings. (See section 5.6.2.3 for more details).

The answer to Q3 (i.e. explanatory factors of compliance) indicates a link with the findings related to Q1. The value relevance analyses indicate a further link between the findings related to one question and that of another.

More specifically, it is shown that the adjustments resulting from IAS 10 and IAS 16 and reported in the reconciliation statements are (positively) incrementally value relevant. It is noteworthy that the adjustment with regard to IAS 38 is also incrementally value relevant but with a negative coefficient. These results are driven by the sub-sample of small companies for which similar findings are reported. The results regarding large companies are inconclusive. Additionally, there is weak

evidence that the adjustments regarding IAS 12, IAS 37 and IAS 32&39 are positively value relevant.

Although findings concerning the relative value relevance suggest that the participants in the Greek market do not change their attitude towards book values because these are now produced under IFRS, these findings do suggest that investors process the information reported within the transitional reconciliation statements. This is in line with Alciatore (1993) who concludes that the market assigns value to information explaining how and why a net change reported has arisen. Consequently, the identification of incremental value relevance of the individual adjustments supports the usefulness of the reconciliation statements, at least as far as Greece is concerned.

Furthermore, the findings regarding Q2 (i.e. levels of compliance with IFRS mandatory disclosures) facilitate answering Q6. More specifically, they are used in the Ohlson (1995) model as a proxy for v , testing the value relevance of quantity of mandatory disclosures. The findings regarding Q6, which are submitted to robustness checks, suggest that investors do place value on mandatory disclosures (see section 5.6.4). The level of mandatory disclosures is positively related to market values. This appears to be consistent with the premises of signalling and free market theories. Companies with higher compliance levels 'screen' themselves and this has 'rewarding' implications. Additionally, it is shown that investors do assign (higher) value on the book value of shareholders' equity of high compliance companies. This indicates that higher compliance with mandatory disclosures reduces information asymmetry (cf. Bushee and Leuz, 2005) and mitigates uncertainty about companies' fundamentals (Anctil et al. 2004). These issues are particularly relevant to the present context if one considers the background regarding creative accounting with regard to balance sheet. (See section 5.6.4.4 for more details)

6.3.2 Contribution and implications

6.3.2.1 Contribution to the literature

The answer to Q1 contributes to similar academic studies examining the impact of IFRS on companies' financial statements as a result of the differences between national GAAPs and IFRS: Cordazzo (2008) (*Italy*); Lopes and Viana (2008) (*Portugal*); Aisbitt (2006) (*UK*); Callao et al. (2007) (*Spain*).

The answer to Q2 contributes to prior literature examining compliance with accounting standards' mandatory disclosures (e.g. Ali et al., 2004; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003; Akhtaruddin, 2005; Hodgdon et al., 2008). This is the first large scale academic study which examines companies' level of compliance with all IFRS mandatory disclosures after their implementation in 2005 in EU countries.

In parallel, the relatively high non-compliance levels identified reflect on and confirm the concerns expressed in the literature regarding the role that enforcement mechanisms play in the achievement of a successful level of comparability across jurisdictions that adopt IFRS (e.g. Ball, 2006; Nobes, 2006; Weetman, 2006; Giner and Rees, 2005; Schipper, 2005). In fact, the findings of the present study are in favour of the argument raised by Nobes and Parker (2008) that low enforcement mechanisms may result in *de facto* voluntary compliance with IFRS.

The answer to Q3 contributes to prior literature examining compliance with accounting standards mandatory disclosures and testing several variables as explanatory factors for the levels of compliance identified (e.g. Ali et al., 2004; Glaum and Street, 2003; Abd-Elsalam and Weetman, 2003; Akhtaruddin, 2005). This study illustrates that managers' compliance behaviour of a company that experiences significant changes in its fundamental measures is driven significantly by the impact on those measures. More specifically, the impact on shareholders' equity and net income resulting from the implementation of IFRS are significantly associated with companies' levels of compliance. This is the first study to test these

two variables. Additionally, consistent with prior literature and of particular relevance to Greece, it is shown that companies with a ‘Big 4’ auditor exhibit significantly higher levels of compliance.

The answer to Q4 builds on and contributes to literature suggesting that Anglo-Saxon, shareholder oriented accounting regimes (such as IFRS) provide more value relevant accounting information than the stakeholder regimes in Continental Europe (e.g. Ali and Hwang, 2000; King and Langli, 1998). The findings of the present study indicate that, at least in the case of Greece, this is not so. The answer to this question makes a contribution to the literature examining the value relevance of accounting information after the mandatory implementation of IFRS in EU (e.g. Capkun et al., 2008; Paananen, 2008).

The answer to Q5 builds on and contributes to literature suggesting that information provided in companies’ reconciliation statements is value relevant (cf. Niskanen, 2000; Beckman, 2007; Horton and Serafeim, 2009). Strong evidence in support of this argument is provided.

The answer to Q6 addresses recent calls for empirical research on the valuation implications of mandatory disclosures in general and with regard to IFRS in particular. *First*, it provides direct empirical evidence in relation to firm value and level of mandatory disclosures (Hassan et al., 2009; Kang and Pang, 2005). *Second*, it addresses Verrecchia’s (2001: 174) call for empirical disclosure related research in ‘less developed capital markets than those found in the US’ (ibid: 175). The findings of the present study suggest that higher compliance with mandatory disclosures reduces information asymmetry (cf. Bushee and Leuz, 2005) and mitigates uncertainty about companies’ fundamentals (Anctil et al. 2004).

6.3.2.2 Methodological contribution

The findings provide strong evidence that using only one method for measuring compliance with mandatory disclosures may produce misleading perception about the extent to which companies comply with the standards’ requirements.

More specifically, following only the PC method, average compliance of 79% would have been reported. Following only Cooke's approach the corresponding figure would have been 83%. Most importantly, following only the PC method would report that approximately 50% of the companies are exhibiting compliance in the range between 50% and 80%. However, following only the commonly used method, approximately 30% of the companies would appear in this category. Additionally, no company would have been reported as exhibiting less than 60% compliance. (See section 4.7.2.2 for a detailed discussion.)

Beyond this, using only one method may also have implications with regard to the explanatory factors that appear to be significantly associated with the levels of compliance identified. For example, the findings of the present study indicate that, following only the PC method, industry type is significantly associated with companies' levels of compliance with IFRS mandatory disclosures. This does not hold in relation to the results based on Cooke's method. Accordingly, this study suggests simultaneous use of both the commonly used dichotomous approach and the PC method as they were employed in this study. (See section 4.7.7.2 for a detailed discussion.)

6.3.2.3 Contribution to theory

Wallace and Gernon (1991: 20) urge researchers to examine accounting research theories 'in countries other than those in which they were developed'. In line with this proposition, the present study examined disclosures and valuation theories in the Greek context whilst examining issues regarding the mandatory adoption of IFRS (see sections 4.2, 4.3 and 5.3 for more details). As indicated above (sections 6.3.1.2 and 6.3.1.3), the findings of the analyses regarding Q3 and Q6 contribute to those theories. With regard to disclosure theories, they provide strong support for the propositions of agency, signaling, political costs, and free market theories. As far as valuation theory is concerned and with regard to OM in particular, it is shown that, although book values do map market values, 'other information' (as proxied by the

quantity of IFRS mandatory disclosures) plays also a significant role in valuing a company (see also sections 4.7.7 and 5.6.4 for more details).

6.3.2.4 Policy implications

The findings of the analyses provided in this thesis should be particularly relevant to standard setters. *First*, support for the production of reconciliation statements is provided. This is because the magnitude of the impact on key financial measures, as this is reported in reconciliation statements, could indicate companies engaging with earnings management under the previous accounting regime. Additionally, it is shown that the information provided in reconciliation statements affects managers' compliance behaviour. This could also indicate instances of non-compliance with measurement, recognition and/or disclosure requirements. Furthermore, reconciliation adjustments are value relevant and hence investors, who are perceived to be the main users of the financial statements, are benefited by receiving detailed information.

Second, Barth et al. (2001: 77) argue that value relevance research *inter alia* 'provides insights into questions of interest to standard setters.' Thus, the evidence of no improvement in the value relevance of accounting information in Greece should be of interest of standard setter and regulators. In particular, in countries where creative accounting is not a rare phenomenon and nor is enforcement strong there is no reason that these features should change in the short term with IFRS implementation. This has been suggested for Greece both by trading managers (cf. Kontoyannis, 2005) and by the interviewees participated in this study. On that basis, consistent with Damant (2006) there other contextual factors affecting accounting quality for which particular attention should be paid to.

Third, in relation to the reference to Damant (2006), the relatively high non-compliance levels with regard to IFRS mandatory disclosures identified confirm the concerns regarding the role that enforcement mechanisms play in the achievement of a successful level of comparability across jurisdictions that adopt IFRS (e.g. Ball, 2006; Nobes; 2006; Weetman, 2006; Giner and Rees, 2005; Schipper, 2005). In

particular, the findings of the present study are in favour of the argument raised by Nobes and Parker (2008) that low enforcement mechanisms may result in *de facto* voluntary compliance with IFRS. These findings should alert the enforcement mechanisms in Greece as well as in other jurisdictions where weak enforcement mechanisms exist.

6.4 Limitations of the Study

Although, each empirical chapter contains a section devoted to discussion related to the limitations attributed to the analyses discussed therein, the main limitations of this thesis can be summarised as follows.

The impact reported in the reconciliation statements with regard to the transition to IFRS may be affected by creative accounting practices followed before and/or during the period of transition. It may also be affected by preparers' non-familiarity with IFRS which may lead to misinterpretation of the standards' requirements and subsequently improper implementation.

Although the necessary procedures were followed, measuring compliance with mandatory disclosures always entails a degree of subjectivity. This may hinder replication of the research in a consistent way by other researchers.

In common with similar value relevance studies, it is assumed that investors understand and evaluate the implications and effects of IFRS. This may not be (completely) the case where IFRS are introduced for the first time in a country with a substantially different accounting tradition. Additionally, selective or incomplete reporting/disclosure may mislead investors unfamiliar with the new regime.

The sample is not randomly selected. Although the necessary controls have been followed regarding the value relevance part of this study (i.e. chapter 5), it remains a limitation regarding chapters 3 and 4.

6.5 Suggestions for Future Research

Adoption of IFRS has stimulated many opportunities for international accounting research. Several researchers have indicated some of the issues could be examined (e.g. Nobes, 2006; Weetman, 2006; Meek and Thomas, 2004). Additionally, others have examined aspects of accounting quality after adoption of IFRS in other countries or in multi-country settings (e.g. Platikanova and Nobes, 2006; Daske et al., 2008; Christensen et al., 2008; Barth et al., 2008; and Jeanjean and Stolowy, 2008) which have not been examined in the present study.

However, the findings of the present study can also provide good avenues for potential research. Some of the areas for which the present study can provide motivation are highlighted below.

First, prior literature indicates that companies' compliance with IFRS tends to increase within few years after the initial year of adoption. This, in parallel to the fact that HCMC enhanced the processes for monitoring listed companies' financial statements in 2007 (see chapter 2), may lead to increased levels of compliance with IFRS mandatory disclosures after 2005. Thus, it would worth examining whether companies included in the present research, and exhibited compliance below the median or average score, improved their compliance levels. This would give an indication on whether companies with very low compliance levels have improved.¹³³

Second, this study indicates that the main factors associated with compliance with IFRS mandatory disclosures are: audit firm size; the impact on 2004 shareholders' equity as a result of the adoption of IFRS; and the impact on 2004 net income as a result of the adoption of IFRS. The last two of these three variables were relevant to the present research and could be examined since this information was observable through the main financial statements which were investigated. However, after 2005 such information will not be provided in companies' financial statements. Accordingly, future research could examine which factors explain compliance with IFRS mandatory disclosures in the absence of such information after 2005.

¹³³ I owe debt to Sir David Tweedie for this suggestion.

Third, qualitative research could complement the present study, especially for the findings regarding the relative value relevance of accounting information. More specifically, the present study indicates that there is no change in the relative value relevance of accounting information after IFRS adoption by Greek listed companies. Discussions with investors and traders in Greece could provide more insights on their perceptions regarding the quality of the accounting information provided by Greek listed companies.

Finally, prior qualitative (e.g. Baralexis, 2004) and quantitative (e.g. Spathis, 2002; Spathis et al., 2002) research has examined the areas of creative accounting practices implemented under Greek GAAP. The findings provided in chapter 3 confirm the expectations that the adoption of specific IFRS would result in curtailment of those practices. On that basis, future qualitative or quantitative research could provide evidence on whether Greek companies continue to apply creative accounting practices after IFRS mandatory implementation and, if so, insights regarding the areas on which these practices are implemented.

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Appendix I – List of the companies examined in this study

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Media (14)	<i>LAMBRAKIS PRESS S.A.</i>	TECHNICAL PUBLICATIONS S.A.	<i>IMAKO MEDIA S.A.</i>
	<i>TILETIPOS S.A.</i>	ELEFThERI TILEORASI S.A.	AUDIO VISUAL ENTERPRISES S.A.
	<i>X.K. TEGOPOULOS EDITIONS S.A.</i>	<i>KATHIMERINI PUBLISHING SA</i>	<i>ATTICA PUBLICATIONS S.A.</i>
	ALMA-ATERMON S.A.	<i>LIVANIS PUBLICATIONS SA</i>	<i>NAYTEMPORIKI PUBLISHING S.A.</i>
	<i>LIBERIS PUBLICATIONS S.A.</i>	PEGASUS PUBLISHING S.A.	
Travel and leisure (16)	<i>MINOAN LINES S.A.</i>	<i>ATTICA HOLDINGS S.A.</i>	<i>BLUE STAR MARITIME S.A.</i>
	INTRALOT S.A. INTEGRATED LOTTERY SYSTEMS & SERVICES	<i>ASTIR PALACE VOULIAGMENI S.A.</i>	<i>ANEK LINES S.A.</i>
	<i>KIRIAKOULIS MEDITERRANEAN CRUISES SHIPPING S.A.</i>	NICK GALIS YOUTH CENTERS & ASSISTED LIVING S.A.	<i>HYATT REGENCY S.A.</i>
	<i>GREEK ORGANISATION OF FOOTBALL PROGNOSTICS S.A.</i>	NEL S.A.	<i>IONIAN HOTEL ENT. S.A.</i>
	<i>AUTOHELLAS S.A.</i>	<i>LAMPSA HOTEL CO. S.A.</i>	<i>GEKE S.A.</i>
	OLYMPIC CATERING S.A.		
Health care (8)	<i>MEDICON HELLAS S.A</i>	<i>EUROMEDICA S.A.</i>	<i>AXON S.A. HOLDING</i>
	<i>ATHENS MEDICAL C.S.A.</i>	LAVIPHARM S.A.	<i>DIAGNOSTIC & CURING CENTRE OF ATHENS YGEIA S.A.</i>
	<i>IASO S.A.</i>	VETERIN S.A.	
Retail (13)	<i>SPRIDER S.A</i>	GERMANOS IND. & COM. CO S.A.	<i>NOTOS COM HOLDINGS S.A.</i>
	<i>HELLENIC DUTY FREE SHOPS S.A.</i>	<i>REVOIL S.A.</i>	ATLANTIC SUPER MARKET S.A.
	<i>ALFA-BETA VASSILOPOULOS S.A.</i>	<i>IKONA - IHOS S.A.</i>	<i>AS COMPANY S.A.</i>
	MULTIRAMA S.A.	MICROLAND COMPUTERS S.A.	<i>VARDAS SA</i>
	SFAKIANAKIS S.A.		
Personal and household goods (39)	GR. SARANTIS S.A.	<i>YALCO - CONSTANTINOY S.A.</i>	<i>ELVE S.A.</i>
	<i>KARELIA TOBACCO COMPANY INC. S.A.</i>	EL. D. MOUZAKIS S.A.	ALSINCO S.A
	<i>FOLLI - FOLLIE S.A.</i>	<i>HELLENIC FABRICS S.A.</i>	<i>SATO S.A.</i>
	<i>F.G. EUROPE S.A.</i>	<i>FASHION BOX HELLAS S.A.</i>	ELMEC SPORT S.A.
	CHATZIOANNOU HOLDINGS S.A.	DROMEAS S.A. OFFICE FURNITURE INDUSTRY	<i>EMPORIKOS DESMOS S.A.</i>
	<i>MINERVA KNITWEAR S.A.</i>	<i>DUROS S.A.</i>	<i>FIERATEX S.A.</i>
	PLIAS CONSUMER GOODS S.A.	<i>SP. TASOGLOU S.A.</i>	<i>RIDENCO S.A.</i>
	<i>X. BENRUBI S.A.</i>	<i>ELFICO S.A.</i>	<i>FINTEXPORT S.A.</i>
	RILKEN S.A.	SANYO HELLAS HOLDING S.A.	LANAKAM SA

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	VARANGIS AVEPE S.A.	TECHNICAL OLYMPIC S.A.	ETMA RAYON S.A.
	VARVARESSOS S.A. EUROPEAN SPINNING MILLS	FOURLIS S.A.	KLONATEX GROUP OF COMPANIES S.A.
	BIOKARPET S.A. INDUSTRIAL AND COMMERCIAL ENTERPRISES	ZAMPA SA	KNITWEAR FACTORY MAXIM C.M. PERTSINIDIS S.A.
	HELLATEX S.A. SYNTHETIC YARNS	NAFPAKTOS TEXTILE INDUSTRY S.A.	WOOL INDUSTRY TRIA ALFA S.A.
Technology (22)	INFORMER S.A.	MLS MULTIMEDIA S.A.	FORTHnet S.A.
	UNIBRAIN S.A.	LOGISMOS SA	QUALITY AND RELIABILITY S.A.
	CENTRIC MULTIMEDIA S.A.	MARAC ELECTRONICS S.A.	SPACE HELLAS S.A.
	HITECH SNT S.A.	Info-Quest S.A.	NEXANS HELLAS S.A.
	PLAISIO COMPUTERS S.A.	INTRACOM S.A. HOLDINGS	ILYDA S.A.
	ALTEC S.A. INFORM. & COMMUN. SYST.	INTERTECH S.A. INTER TECHNOLOGIES	LOGIC DATA INFORMATION SYSTEMS S.A.
	BYTE COMPUTER S.A.	UNISYSTEMS S.A.	
PROFILE SYSTEMS & SOFTWARE SA	COMPUCON COMPUTER APPLICATIONS SA		
Constructions and materials (32)	J. & P. - AVAX S.A.	DOMIKI KRITIS S.A.	EDRASIS - C. PSALLIDAS S.A.
	TERNA S.A.	PROODEFTIKH TECHNICAL COMPANY S.A.	KERAMICS ALLATINI S.A.
	BABIS VOVOS INTERNATIONAL TECHNICAL S.A.	PANTECHNIKI S.A.	MATHIOS REFRACTORY S.A.
	ELLINIKI TECHNODOMIKI TEB S.A.	DELTA PROJECT S.A.	BIOSSOL S.A.
	GENER S.A.	TITAN CEMENT COMPANY S.A.	MESOCHORITI BROS CORPORATION
	ATHENA S.A.	INTRACOM CONSTRUCTIONS S.A. TECHN & STEEL CONSTR.	I. KLOUKINAS - I. LAPPAS S.A. CONSTR. AND COM.COMP.
	SHELMAN SWISSHELLENIC WOOD PROD. MANUF. S.A.	MOCHLOS S.A.	BIOTER S.A.
	AKRITAS S.A.	MICHANIKI S.A.	BETANET SA
	N. VARVERIS-MODA BAGNO S.A.	DIEKAT S.A.	ERGAS S.A.
	AEGEK S.A.	HERACLES GENERAL CEMENT COMPANY S.A.	IKTINOS HELLAS S.A.- GREEK MARBLE INDUSTRY
XYLEMPORIA S.A.	EKTER SA		
	HELLENIC FISHFARMING S.A.	CHATZIKRANIWTIS & SONS MILLS S.A.	PERSEUS SPECIALTY FOODS S.A.
	ALLATINI Ind. and Com Co. S.A.	KRE.KA S.A.	DIAS AQUA CULTURE S.A.

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Food and beverage (31)	C. CARDASSILARIS & SONS - CARDICO S.A.	<i>INTERFISH AQUACULTURE S.A.</i>	DELTA HOLDINGS S.A.
	FLOUR MILLS C. SARANTOPOULOS S.A.	<i>KTIMA KOSTAS LAZARIDIS S.A.</i>	<i>ELAIS - UNILEVER S.A.</i>
	<i>KARAMOLENGOS BAKERY INDUSTRY S.A.</i>	<i>FLOUR MILLS KEPENOS S.A.</i>	<i>KEGO S.A.</i>
	<i>KRI-KRI MILK INDUSTRY S.A.</i>	<i>EVROFARMA SA</i>	STELIOS KANAKIS S.A.
	<i>NIREFS S.A.</i>	<i>EUROHOLDINGS CAPITAL & INVESTMENT CORP. S.A.</i>	HIPPOTOUR S.A.
	KATSELIS SONS S.A. BREAD IND.	GREGORY'S MIKROGEVMATA S.A.	<i>J.BOUTARIS & SON HOLDING S.A.</i>
	<i>P.G. NIKAS S.A.</i>	ELBISCO HOLDING S.A.	<i>SELONDA AQUACULTURE S.A.</i>
	KRETA FARM SA	<i>GALAXIDI FISH FARMING S.A</i>	DELTA ICE-CREAM S.A.
	<i>ELGEKA S.A.</i>		
Basic resources (17)	S & B INDUSTRIAL MINERALS S.A.	<i>ETEM S.A.</i>	ALCO HELLAS S.A.
	<i>N. LEVENTERIS S.A.</i>	<i>BITROS HOLDING S.A.</i>	<i>KORDELLOS CH. BROS S.A.</i>
	<i>MYTILINEOS HOLDINGS S.A.</i>	<i>PIPE WORKS L. GIRAKIAN PROFIL S.A.</i>	SIDMA S.A., STEEL PRODUCTS
	ALUMINIUM OF GREECE S.A.	<i>ELVAL ALUM. PROCESS. Co. S.A.</i>	SHEET STEEL CO. S.A.
	<i>HALKOR S.A (FORMER VECTOR)</i>	<i>A. KALPINIS - N. SIMOS Steel Service Center S.A.</i>	<i>SIDENOR S.A. (FORMER ERLIKON)</i>
	<i>ALUMIL MILONAS ALUM. IND. S.A.</i>	<i>CORINTH PIPEWORKS S.A.</i>	
Telecommunications (3)	HELLENIC TELECOM. ORG. S.A.	COSMOTE - MOBILE TELECOMMUNICATIONS S.A	LAN-NET S.A.
Oil and Gas (2)	<i>MOTOR OIL (HELLAS) CORINTH REFINERIES S.A.</i>	<i>ELINOIL HELLENIC PETROLEUM COMPANY S.A.</i>	
Industrial goods and services (27)	<i>FRIGOGLASS S.A.</i>	VOGIATZOGLOU SYSTEMS S.A.	<i>CROWN HELLAS CAN S.A.</i>
	<i>METKA S.A.</i>	<i>HELLENIC CABLES S.A.</i>	IMPERIO S.A.
	<i>M. J. MAILLIS S.A.</i>	INFORM P. LYKOS S.A.	<i>KLEEMAN HELLAS S.A.</i>
	<i>VIS Container Manufacturing Co. S.A.</i>	<i>FLEXOPACK S.A.</i>	<i>GEN. COMMERCIAL & IND SA</i>
	<i>PIRAEUS PORT AUTHORITY S.A.</i>	<i>MEVACO S.A.</i>	<i>P. PETROPOYLOS S.A</i>
	E. PAIRIS S.A	<i>NEWSPHONE HELLAS S.A. AUDIOTEX</i>	<i>KARATZIS S.A.</i>
	NEORION HOLDINGS S.A.	ELTRAK S.A.	<i>XAIDEMENOS S.A.</i>
	<i>SPIDER METAL INDUSTRY N.PETSIOS & SONS S.A.</i>	<i>THESSALONIKI PORT AUTHORITY S.A.</i>	<i>VIOHALKO HELLENIC COPPER AND ALUMINIUM INDUSTRY S.A.</i>
	<i>ZENON S.A. ROBOTICS AND INFORMATICS</i>	<i>DIONIC S.A.</i>	<i>PAPERPACK - TSOUKARIDIS S.A.</i>

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Chemicals (11)	<i>THRACE PLASTICS CO. S.A.</i>	<i>CYCLON HELLAS S.A.</i>	LAMDA DEVELOPMENT S.A.
	THE HOUSE OF AGRICULTURE SPIROY S.A.	<i>EURODRIP S.A.</i>	<i>NEOCHIMIKI - L.V. LAVRENTIADIS S.A.</i>
	<i>CRETE PLASTICS S.A.</i>	ELTON S.A.	PETZETAKIS S.A.
	<i>DRUCKFARBEN HELLAS S.A.</i>	<i>DAIOS PLASTICS S.A.</i>	
Utilities (3)	ARCADIA METAL IND. C. ROKAS S.A.	<i>THESSALONIKI WATER & SEWAGE Co. S.A.</i>	<i>ATHENS WATER SUPPLY & SEWAGE Co. SA</i>

All companies have been used in chapter 3. The companies being highlighted have been used in chapter 4 and chapter 5.

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Paragraph	Sub-paragraph	<i>IFRS 1 'First-Time Adoption of IFRS'</i>	
36A		In its first IFRS financial statements, an entity that adopts IFRSs before 1 January 2006 shall present at least one year of comparative information, but this comparative information need not comply with IAS 32, IAS 39 and IFRS 4. An entity that chooses to present comparative information that does not comply with IAS 32, IAS 39 and IFRS 4 in its first year of transition shall:	
	(a)	apply its previous GAAP in the comparative information to financial instruments within the scope of IAS 32 and IAS 39 and to insurance contracts within the scope of IFRS 4;	
	(b)	disclose this fact together with the basis used to prepare this information; and	
	(c)	disclose the nature of the main adjustments that would make the information comply with IAS 32, IAS 39 and IFRS 4. The entity need not quantify those adjustments. However, the entity shall treat any adjustment between the balance sheet at the comparative period's reporting date (ie the balance sheet that includes comparative information under previous GAAP) and the balance sheet at the start of the first IFRS reporting period (ie the first period that includes information that complies with IAS 32, IAS 39 and IFRS 4) as arising from a change in accounting policy and give the disclosures required by paragraph 28(a)–(e) and (f)(i) of IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. Paragraph 28(f)(i) applies only to amounts presented in the balance sheet at the comparative period's reporting date.	
37		Some entities present historical summaries of selected data for periods before the first period for which they present full comparative information under IFRSs. This IFRS does not require such summaries to comply with the recognition and measurement requirements of IFRSs. Furthermore, some entities present comparative information under previous GAAP as well as the comparative information required by IAS 1. In any financial statements containing historical summaries or comparative information under previous GAAP, an entity shall:	
	(a)	label the previous GAAP information prominently as not being prepared under IFRSs; and	
	(b)	disclose the nature of the main adjustments that would make it comply with IFRSs. An entity need not quantify those adjustments.	
39		To comply with paragraph 38: [An entity shall explain how the transition from previous GAAP to IFRSs affected its reported financial position, financial performance and cash flows], an entity's first IFRS financial statements shall include:	
	(a)	reconciliations of its equity reported under previous GAAP to its equity under IFRSs for both of the following dates: (i) the date of transition to IFRSs; and (ii) the end of the latest period presented in the entity's most recent annual financial statements under previous GAAP;	
	(b)	a reconciliation of the profit or loss reported under previous GAAP for the latest period in the entity's most recent annual financial statements to its profit or loss under IFRSs for the same period; and	

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	(c)	if the entity recognised or reversed any impairment losses for the first time in preparing its opening IFRS balance sheet, the disclosures that IAS 36 Impairment of Assets would have required if the entity had recognised those impairment losses or reversals in the period beginning with the date of transition to IFRSs.	
40		The reconciliations required by paragraph 39(a) and (b) shall give sufficient detail to enable users to understand the material adjustments to the balance sheet and income statement. If an entity presented a cash flow statement under its previous GAAP, it shall also explain the material adjustments to the cash flow statement.	
41		If an entity becomes aware of errors made under previous GAAP, the reconciliations required by paragraph 39(a) and (b) shall distinguish the correction of those errors from changes in accounting policies.	
43		If an entity did not present financial statements for previous periods, its first IFRS financial statements shall disclose that fact.	
43A		An entity is permitted to designate a previously recognised financial asset or financial liability as a financial asset or financial liability at fair value through profit or loss or as available for sale in accordance with paragraph 25A. The entity shall disclose the fair value of any financial assets or financial liabilities designated into each category and the classification and carrying amount in the previous financial statements.	
44		If an entity uses fair value in its opening IFRS balance sheet as deemed cost for an item of property, plant and equipment, an investment property or an intangible asset (see paragraphs 16 and 18), the entity's first IFRS financial statements shall disclose, for each line item in the opening IFRS balance sheet:	
	(a)	the aggregate of those fair values; and	
	(b)	the aggregate adjustment to the carrying amounts reported under previous GAAP.	
		Total Level of Compliance with IFRS 1	
Paragraph	Sub-paragraph	<i>IFRS 2 'Share-based Payment'</i>	
45		To give effect to the principle in paragraph 44 [An entity shall disclose information that enables users of the financial statements to understand the nature and extent of share-based payment arrangements that existed during the period], the entity shall disclose at least the following:	
	(a)	a description of each type of share-based payment arrangement that existed at any time during the period, including the general terms and conditions of each arrangement, such as vesting requirements, the maximum term of options granted, and the method of settlement (eg whether in cash or equity). An entity with substantially similar types of share-based payment arrangements may aggregate this information, unless separate disclosure of each arrangement is necessary to satisfy the principle in paragraph 44.	
	(b)	the number and weighted average exercise prices of share options for each of the following groups of options: (i) outstanding at the beginning of the period; (ii) granted during the period; (iii) forfeited during the period; (iv) exercised during the period; (v) expired during the period; (vi) outstanding at the end of the period; and (vii) exercisable at the end of the period.	

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	(c)	for share options exercised during the period, the weighted average share price at the date of exercise. If options were exercised on a regular basis throughout the period, the entity may instead disclose the weighted average share price during the period.	
	(d)	for share options outstanding at the end of the period, the range of exercise prices and weighted average remaining contractual life. If the range of exercise prices is wide, the outstanding options shall be divided into ranges that are meaningful for assessing the number and timing of additional shares that may be issued and the cash that may be received upon exercise of those options.	
47		If the entity has measured the fair value of goods or services received as consideration for equity instruments of the entity indirectly, by reference to the fair value of the equity instruments granted, to give effect to the principle in paragraph 46 [An entity shall disclose how the fair value of the goods or services received, or the fair value of the equity instruments granted, during the period was determined], the entity shall disclose at least the following:	
	(a)	for share options granted during the period, the weighted average fair value of those options at the measurement date and information on how that fair value was measured, including: (i) the option pricing model used and the inputs to that model, including the weighted average share price, exercise price, expected volatility, option life, expected dividends, the risk-free interest rate and any other inputs to the model, including the method used and the assumptions made to incorporate the effects of expected early exercise; (ii) how expected volatility was determined, including an explanation of the extent to which expected volatility was based on historical volatility; and (iii) whether and how any other features of the option grant were incorporated into the measurement of fair value, such as a market condition.	
	(b)	for other equity instruments granted during the period (ie other than share options), the number and weighted average fair value of those equity instruments at the measurement date, and information on how that fair value was measured, including: (i) if fair value was not measured on the basis of an observable market price, how it was determined; (ii) whether and how expected dividends were incorporated into the measurement of fair value; and (iii) whether and how any other features of the equity instruments granted were incorporated into the measurement of fair value.	
	(c)	for share-based payment arrangements that were modified during the period: (i) an explanation of those modifications; (ii) the incremental fair value granted (as a result of those modifications); and (iii) information on how the incremental fair value granted was measured, consistently with the requirements set out in (a) and (b) above, where applicable.	
48		If the entity has measured directly the fair value of goods or services received during the period, the entity shall disclose how that fair value was determined, eg whether fair value was measured at a market price for those goods or services.	
49		If the entity has rebutted the presumption in paragraph 13 [...that the fair value of the goods or services received can be estimated reliably. That fair value shall be measured at the date the entity obtains the goods or the counterparty renders service. In rare cases, if the entity rebuts this presumption...], it shall disclose that fact, and give an explanation of why the presumption was rebutted.	

51		To give effect to the principle in paragraph 50 [An entity shall disclose information that enables users of the financial statements to understand the effect of share-based payment transactions on the entity's profit or loss for the period and on its financial position], the entity shall disclose at least the following:
	(a)	the total expense recognised for the period arising from share-based payment transactions in which the goods or services received did not qualify for recognition as assets and hence were recognised immediately as an expense, including separate disclosure of that portion of the total expense that arises from transactions accounted for as equity-settled share-based payment transactions;
	(b)	for liabilities arising from share-based payment transactions: (i) the total carrying amount at the end of the period; and (ii) the total intrinsic value at the end of the period of liabilities for which the counterparty's right to cash or other assets had vested by the end of the period (eg vested share appreciation rights).
52		If the information required to be disclosed by this IFRS does not satisfy the principles in paragraphs 44, 46 and 50, the entity shall disclose such additional information as is necessary to satisfy them.
		Total Level of Compliance with IFRS 2
Paragraph	Sub-paragraph	<i>IFRS 3 'Business Combinations'</i>
66		An acquirer shall disclose information that enables users of its financial statements to evaluate the nature and financial effect of business combinations that were effected:
	(a)	during the period.
	(b)	after the balance sheet date but before the financial statements are authorised for issue.
67		To give effect to the principle in paragraph 66(a), the acquirer shall disclose the following information for each business combination that was effected during the period:
	(a)	the names and descriptions of the combining entities or businesses.
	(b)	the acquisition date.
	(c)	the percentage of voting equity instruments acquired.
	(d)	the cost of the combination and a description of the components of that cost, including any costs directly attributable to the combination. When equity instruments are issued or issuable as part of the cost, the following shall also be disclosed: (i) the number of equity instruments issued or issuable; and (ii) the fair value of those instruments and the basis for determining that fair value. If a published price does not exist for the instruments at the date of exchange, the significant assumptions used to determine fair value shall be disclosed. If a published price exists at the date of exchange but was not used as the basis for determining the cost of the combination, that fact shall be disclosed together with: the reasons the published price was not used; the method and significant assumptions used to attribute a value to the equity instruments; and the aggregate amount of the difference between the value attributed to, and the published price of, the equity instruments.
	(e)	details of any operations the entity has decided to dispose of as a result of the combination.

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	(f)	the amounts recognised at the acquisition date for each class of the acquiree's assets, liabilities and contingent liabilities, and, unless disclosure would be impracticable, the carrying amounts of each of those classes, determined in accordance with IFRSs, immediately before the combination. If such disclosure would be impracticable, that fact shall be disclosed, together with an explanation of why this is the case.	
	(g)	the amount of any excess recognised in profit or loss in accordance with paragraph 56 [If the acquirer's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities recognised in accordance with paragraph 36 exceeds the cost of the business combination, the acquirer shall: (a) reassess the identification and measurement of the acquiree's identifiable assets, liabilities and contingent liabilities and the measurement of the cost of the combination; and (b) recognise immediately in profit or loss any excess remaining after that reassessment.], and the line item in the income statement in which the excess is recognised.	
	(h)	a description of the factors that contributed to a cost that results in the recognition of goodwill—a description of each intangible asset that was not recognised separately from goodwill and an explanation of why the intangible asset's fair value could not be measured reliably—or a description of the nature of any excess recognised in profit or loss in accordance with paragraph 56.	
	(i)	the amount of the acquiree's profit or loss since the acquisition date included in the acquirer's profit or loss for the period, unless disclosure would be impracticable. If such disclosure would be impracticable, that fact shall be disclosed, together with an explanation of why this is the case.	
68		The information required to be disclosed by paragraph 67 shall be disclosed in aggregate for business combinations effected during the reporting period that are individually immaterial.	
69		If the initial accounting for a business combination that was effected during the period was determined only provisionally as described in paragraph 62 [If the initial accounting for a business combination can be determined only provisionally by the end of the period in which the combination is effected because either the fair values to be assigned to the acquiree's identifiable assets, liabilities or contingent liabilities or the cost of the combination can be determined only provisionally, the acquirer shall account for the combination using those provisional values. The acquirer shall recognise any adjustments to those provisional values as a result of completing the initial accounting: (a) within twelve months of the acquisition date; and (b) from the acquisition date.], that fact shall also be disclosed together with an explanation of why this is the case.	
70		To give effect to the principle in paragraph 66(a), the acquirer shall disclose the following information, unless such disclosure would be impracticable:	
	(a)	the revenue of the combined entity for the period as though the acquisition date for all business combinations effected during the period had been the beginning of that period.	
	(b)	the profit or loss of the combined entity for the period as though the acquisition date for all business combinations effected during the period had been the beginning of the period.	
	(c)	If disclosure of this information would be impracticable, that fact shall be disclosed, together with an explanation of why this is the case.	

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71		To give effect to the principle in paragraph 66(b), the acquirer shall disclose the information required by paragraph 67 for each business combination effected after the balance sheet date but before the financial statements are authorised for issue, unless such disclosure would be impracticable. If disclosure of any of that information would be impracticable, that fact shall be disclosed, together with an explanation of why this is the case.	
73		To give effect to the principle in paragraph 72 [An acquirer shall disclose information that enables users of its financial statements to evaluate the financial effects of gains, losses, error corrections and other adjustments recognised in the current period that relate to business combinations that were effected in the current or in previous periods.], the acquirer shall disclose the following information:	
	(a)	the amount and an explanation of any gain or loss recognised in the current period that: (i) relates to the identifiable assets acquired or liabilities or contingent liabilities assumed in a business combination that was effected in the current or a previous period; and (ii) is of such size, nature or incidence that disclosure is relevant to an understanding of the combined entity's financial performance.	
	(b)	if the initial accounting for a business combination that was effected in the immediately preceding period was determined only provisionally at the end of that period, the amounts and explanations of the adjustments to the provisional values recognised during the current period.	
	(c)	the information about error corrections required to be disclosed by IAS 8 for any of the acquiree's identifiable assets, liabilities or contingent liabilities, or changes in the values assigned to those items, that the acquirer recognises during the current period in accordance with paragraphs 63 and 64.	
75		To give effect to the principle in paragraph 74 [An entity shall disclose information that enables users of its financial statements to evaluate changes in the carrying amount of goodwill during the period.], the entity shall disclose a reconciliation of the carrying amount of goodwill at the beginning and end of the period, showing separately:	
	(a)	(a) the gross amount and accumulated impairment losses at the beginning of the period; (b) additional goodwill recognised during the period except goodwill included in a disposal group that, on acquisition, meets the criteria to be classified as held for sale in accordance with IFRS 5; (c) adjustments resulting from the subsequent recognition of deferred tax assets during the period in accordance with paragraph 65; (d) goodwill included in a disposal group classified as held for sale in accordance with IFRS 5 and goodwill derecognised during the period without having previously been included in a disposal group classified as held for sale; (e) impairment losses recognised during the period in accordance with IAS 36; (f) net exchange differences arising during the period in accordance with IAS 21 The Effects of Changes in Foreign Exchange Rates; (g) any other changes in the carrying amount during the period; and (h) the gross amount and accumulated impairment losses at the end of the period.	
77		If in any situation the information required to be disclosed by this IFRS does not satisfy the objectives set out in paragraphs 66, 72 and 74, the entity shall disclose such additional information as is necessary to meet those objectives.	

		Total level of compliance with IFRS 3	
Paragraph	Sub-paragraph	<i>IFRS 5 ‘Non-Current Assets Held for Sale and discontinued operations’</i>	
33		An entity shall disclose:	
	(a)	a single amount on the face of the income statement comprising the total of: (i) the post-tax profit or loss of discontinued operations and (ii) the post-tax gain or loss recognised on the measurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation.	
	(b)	an analysis of the single amount in (a) into: (i) the revenue, expenses and pre-tax profit or loss of discontinued operations; (ii) the related income tax expense as required by paragraph 81(h) of IAS 12; (iii) the gain or loss recognised on the measurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation; and (iv) the related income tax expense as required by paragraph 81(h) of IAS 12. The analysis may be presented in the notes or on the face of the income statement. If it is presented on the face of the income statement it shall be presented in a section identified as relating to discontinued operations, ie separately from continuing operations. The analysis is not required for disposal groups that are newly acquired subsidiaries that meet the criteria to be classified as held for sale on acquisition (see paragraph 11).	
	(c)	the net cash flows attributable to the operating, investing and financing activities of discontinued operations. These disclosures may be presented either in the notes or on the face of the financial statements. These disclosures are not required for disposal groups that are newly acquired subsidiaries that meet the criteria to be classified as held for sale on acquisition (see paragraph 11).	
34		An entity shall re-present the disclosures in paragraph 33 for prior periods presented in the financial statements so that the disclosures relate to all operations that have been discontinued by the balance sheet date for the latest period presented.	
35		Adjustments in the current period to amounts previously presented in discontinued operations that are directly related to the disposal of a discontinued operation in a prior period shall be classified separately in discontinued operations. The nature and amount of such adjustments shall be disclosed. Examples of circumstances in which these adjustments may arise include the following: (a) the resolution of uncertainties that arise from the terms of the disposal transaction, such as the resolution of purchase price adjustments and indemnification issues with the purchaser. (b) the resolution of uncertainties that arise from and are directly related to the operations of the component before its disposal, such as environmental and product warranty obligations retained by the seller. (c) the settlement of employee benefit plan obligations, provided that the settlement is directly related to the disposal transaction.	
36		If an entity ceases to classify a component of an entity as held for sale, the results of operations of the component previously presented in discontinued operations in accordance with paragraphs 33–35 shall be reclassified and included in income from continuing operations for all periods presented. The amounts for prior periods shall be described as having been re-presented.	

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37		Any gain or loss on the remeasurement of a non-current asset (or disposal group) classified as held for sale that does not meet the definition of a discontinued operation shall be included in profit or loss from continuing operations.	
38		An entity shall present a non-current asset classified as held for sale and the assets of a disposal group classified as held for sale separately from other assets in the balance sheet. The liabilities of a disposal group classified as held for sale shall be presented separately from other liabilities in the balance sheet. Those assets and liabilities shall not be offset and presented as a single amount. The major classes of assets and liabilities classified as held for sale shall be separately disclosed either on the face of the balance sheet or in the notes, except as permitted by paragraph 39 [If the disposal group is a newly acquired subsidiary that meets the criteria to be classified as held for sale on acquisition (see paragraph 11), disclosure of the major classes of assets and liabilities is not required.]. An entity shall present separately any cumulative income or expense recognised directly in equity relating to a non-current asset (or disposal group) classified as held for sale.	
41		An entity shall disclose the following information in the notes in the period in which a non-current asset (or disposal group) has been either classified as held for sale or sold: (a) a description of the non-current asset (or disposal group); (b) a description of the facts and circumstances of the sale, or leading to the expected disposal, and the expected manner and timing of that disposal; (c) the gain or loss recognised in accordance with paragraphs 20–22 [An entity shall recognise an impairment loss for any initial or subsequent write-down of the asset (or disposal group) to fair value less costs to sell, to the extent that it has not been recognised in accordance with paragraph 19. 21 An entity shall recognise a gain for any subsequent increase in fair value less costs to sell of an asset, but not in excess of the cumulative impairment loss that has been recognised either in accordance with this IFRS or previously in accordance with IAS 36 <i>Impairment of Assets</i> . 22 An entity shall recognise a gain for any subsequent increase in fair value less costs to sell of a disposal group: (a) to the extent that it has not been recognised in accordance with paragraph 19; but (b) not in excess of the cumulative impairment loss that has been recognised, either in accordance with this IFRS or previously in accordance with IAS 36, on the non-current assets that are within the scope of the measurement requirements of this IFRS.] and, if not separately presented on the face of the income statement, the caption in the income statement that includes that gain or loss; (d) if applicable, the segment in which the non-current asset (or disposal group) is presented in accordance with IAS 14 Segment Reporting.	

42		If either paragraph 26 [If an entity has classified an asset (or disposal group) as held for sale, but the criteria in paragraphs 7–9 are no longer met, the entity shall cease to classify the asset (or disposal group) as held for sale.] or paragraph 29 If an entity removes an individual asset or liability from a disposal group classified as held for sale, the remaining assets and liabilities of the disposal group to be sold shall continue to be measured as a group only if the group meets the criteria in paragraphs 79. Otherwise, the remaining non-current assets of the group that individually meet the criteria to be classified as held for sale shall be measured individually at the lower of their carrying amounts and fair values less costs to sell at that date. Any non-current assets that do not meet the criteria shall cease to be classified as held for sale in accordance with paragraph 26.] applies, an entity shall disclose, in the period of the decision to change the plan to sell the non-current asset (or disposal group), a description of the facts and circumstances leading to the decision and the effect of the decision on the results of operations for the period and any prior periods presented.	
		Total Level of Compliance with IFRS 5	
Paragraph	Sub-paragraph	<i>IFRS 6 ‘Exploration For and Evaluation of Mineral Resources’</i>	
24		To comply with paragraph 23 [An entity shall disclose information that identifies and explains the amounts recognised in its financial statements arising from the exploration for and evaluation of mineral resources], an entity shall disclose:	
	(a)	its accounting policies for exploration and evaluation expenditures including the recognition of exploration and evaluation assets.	
	(b)	the amounts of assets, liabilities, income and expense and operating and investing cash flows arising from the exploration for and evaluation of mineral resources.	
25		An entity shall treat exploration and evaluation assets as a separate class of assets.	
		Total Level of Compliance with IFRS 6	
Paragraph	Sub-paragraph	<i>IAS 1 ‘Presentation of Financial Statements’</i>	
8		A complete set of financial statements comprises:	
	(a)	a balance sheet;	
	(b)	an income statement;	
	(c)	a statement of changes in equity showing either: (i) all changes in equity, or (ii) changes in equity other than those arising from transactions with equity holders acting in their capacity as equity holders;	
	(d)	a cash flow statement; and	
	(e)	notes, comprising a summary of significant accounting policies and other explanatory notes.	
14		An entity whose financial statements comply with IFRSs shall make an explicit and unreserved statement of such compliance in the notes. Financial statements shall not be described as complying with IFRSs unless they comply with all the requirements of IFRSs.	

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18		When an entity departs from a requirement of a Standard or an Interpretation, it shall disclose:
	(a)	that management has concluded that the financial statements present fairly the entity's financial position, financial performance and cash flows;
	(b)	that it has complied with applicable Standards and Interpretations, except that it has departed from a particular requirement to achieve a fair presentation;
	(c)	the title of the Standard or Interpretation from which the entity has departed, the nature of the departure, including the treatment that the Standard or Interpretation would require, the reason why that treatment would be so misleading in the circumstances that it would conflict with the objective of financial statements set out in the Framework, and the treatment adopted; and
	(d)	for each period presented, the financial impact of the departure on each item in the financial statements that would have been reported in complying with the requirement.
23		When preparing financial statements, management shall make an assessment of an entity's ability to continue as a going concern. Financial statements shall be prepared on a going concern basis unless management either intends to liquidate the entity or to cease trading, or has no realistic alternative but to do so. When management is aware, in making its assessment, of material uncertainties related to events or conditions that may cast significant doubt upon the entity's ability to continue as a going concern, those uncertainties shall be disclosed. When financial statements are not prepared on a going concern basis, that fact shall be disclosed, together with the basis on which the financial statements are prepared and the reason why the entity is not regarded as a going concern.
32		Assets and liabilities, and income and expenses, shall not be offset unless required or permitted by a Standard or an Interpretation.
36		Except when a Standard or an Interpretation permits or requires otherwise, comparative information shall be disclosed in respect of the previous period for all amounts reported in the financial statements. Comparative information shall be included for narrative and descriptive information when it is relevant to an understanding of the current period's financial statements.
46		Each component of the financial statements shall be identified clearly. In addition, the following information shall be displayed prominently, and repeated when it is necessary for a proper understanding of the information presented:
	(a)	the name of the reporting entity or other means of identification, and any change in that information from the preceding balance sheet date;
	(b)	whether the financial statements cover the individual entity or a group of entities;
	(c)	the balance sheet date or the period covered by the financial statements, whichever is appropriate to that component of the financial statements;
	(d)	the presentation currency, as defined in IAS 21 The Effects of Changes in Foreign Exchange Rates; and
	(e)	the level of rounding used in presenting amounts in the financial statements.

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49		Financial statements shall be presented at least annually. When an entity's balance sheet date changes and the annual financial statements are presented for a period longer or shorter than one year, an entity shall disclose, in addition to the period covered by the financial statements:
	(a)	the reason for using a longer or shorter period; and
	(b)	the fact that comparative amounts for the income statement, statement of changes in equity, cash flow statement and related notes are not entirely comparable.
51		An entity shall present current and non-current assets, and current and non-current liabilities, as separate classifications on the face of its balance sheet in accordance with paragraphs 57–67 except when a presentation based on liquidity provides information that is reliable and is more relevant. When that exception applies, all assets and liabilities shall be presented broadly in order of liquidity.
52		Whichever method of presentation is adopted, for each asset and liability line item that combines amounts expected to be recovered or settled (a) no more than twelve months after the balance sheet date and (b) more than twelve months after the balance sheet date, an entity shall disclose the amount expected to be recovered or settled after more than twelve months.
68		As a minimum, the face of the balance sheet shall include line items that present the following amounts to the extent that they are not presented in accordance with paragraph 68A:
	(a)	property, plant and equipment;
	(b)	investment property;
	(c)	intangible assets;
	(d)	financial assets (excluding amounts shown under (e), (h) and (i));
	(e)	investments accounted for using the equity method;
	(f)	biological assets;
	(g)	inventories;
	(h)	trade and other receivables;
	(i)	cash and cash equivalents;
	(j)	trade and other payables;
	(k)	provisions;
	(l)	financial liabilities (excluding amounts shown under (j) and (k));
	(m)	liabilities and assets for current tax, as defined in IAS 12 Income Taxes;
	(n)	deferred tax liabilities and deferred tax assets, as defined in IAS 12;
	(o)	minority interest, presented within equity; and
	(p)	issued capital and reserves attributable to equity holders of the parent.
68 A		The face of the balance sheet shall also include line items that present the following amounts:
	(a)	the total of assets classified as held for sale and assets included in disposal groups classified as held for sale in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations; and
	(b)	liabilities included in disposal groups classified as held for sale in accordance with IFRS 5.
70		When an entity presents current and non-current assets, and current and non-current liabilities, as separate classifications on the face of its balance sheet, it shall not classify deferred tax assets (liabilities) as current assets (liabilities).

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76		An entity shall disclose the following, either on the face of the balance sheet or in the notes:
	(a)	for each class of share capital: (i) the number of shares authorised; (ii) the number of shares issued and fully paid, and issued but not fully paid; (iii) par value per share, or that the shares have no par value; (iv) a reconciliation of the number of shares outstanding at the beginning and at the end of the period; (v) the rights, preferences and restrictions attaching to that class including restrictions on the distribution of dividends and the repayment of capital; (vi) shares in the entity held by the entity or by its subsidiaries or associates; and (vii) shares reserved for issue under options and contracts for the sale of shares, including the terms and amounts; and
	(b)	a description of the nature and purpose of each reserve within equity.
81		As a minimum, the face of the income statement shall include line items that present the following amounts for the period:
	(a)	revenue;
	(b)	finance costs;
	(c)	share of the profit or loss of associates and joint ventures accounted for using the equity method;
	(d)	tax expense;
	(e)	a single amount comprising the total of (i) the post-tax profit or loss of discontinued operations and (ii) the post-tax gain or loss recognised on the measurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation; and
	(f)	profit or loss.
82		The following items shall be disclosed on the face of the income statement as allocations of profit or loss for the period:
	(a)	profit or loss attributable to minority interest; and
	(b)	profit or loss attributable to equity holders of the parent.
85		An entity shall not present any items of income and expense as extraordinary items, either on the face of the income statement or in the notes.
93		Entities classifying expenses by function shall disclose additional information on the nature of expenses, including depreciation and amortisation expense and employee benefits expense.
95		An entity shall disclose, either on the face of the income statement or the statement of changes in equity, or in the notes, the amount of dividends recognised as distributions to equity holders during the period, and the related amount per share.
96		An entity shall present a statement of changes in equity showing on the face of the statement:
	(a)	profit or loss for the period;
	(b)	each item of income and expense for the period that, as required by other Standards or by Interpretations, is recognised directly in equity, and the total of these items;
	(c)	total income and expense for the period (calculated as the sum of (a) and (b)), showing separately the total amounts attributable to equity holders of the parent and to minority interest; and
	(d)	for each component of equity, the effects of changes in accounting policies and corrections of errors recognised in accordance with IAS 8.

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		A statement of changes in equity that comprises only these items shall be titled a statement of recognised income and expense.	
97		An entity shall also present, either on the face of the statement of changes in equity or in the notes:	
	(a)	the amounts of transactions with equity holders acting in their capacity as equity holders, showing separately distributions to equity holders;	
	(b)	the balance of retained earnings (ie accumulated profit or loss) at the beginning of the period and at the balance sheet date, and the changes during the period; and	
	(c)	a reconciliation between the carrying amount of each class of contributed equity and each reserve at the beginning and the end of the period, separately disclosing each change.	
104		Notes shall, as far as practicable, be presented in a systematic manner. Each item on the face of the balance sheet, income statement, statement of changes in equity and cash flow statement shall be cross-referenced to any related information in the notes.	
108		An entity shall disclose in the summary of significant accounting policies:	
	(a)	the measurement basis (or bases) used in preparing the financial statements; and	
	(b)	the other accounting policies used that are relevant to an understanding of the financial statements.	
113		An entity shall disclose, in the summary of significant accounting policies or other notes, the judgements, apart from those involving estimations (see paragraph 116), that management has made in the process of applying the entity's accounting policies and that have the most significant effect on the amounts recognised in the financial statements.	
116		An entity shall disclose in the notes information about the key assumptions concerning the future, and other key sources of estimation uncertainty at the balance sheet date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year. In respect of those assets and liabilities, the notes shall include details of:	
	(a)	their nature; and	
	(b)	their carrying amount as at the balance sheet date.	
125		An entity shall disclose in the notes:	
	(a)	the amount of dividends proposed or declared before the financial statements were authorised for issue but not recognised as a distribution to equity holders during the period, and the related amount per share; and	
	(b)	the amount of any cumulative preference dividends not recognised.	
126		An entity shall disclose the following, if not disclosed elsewhere in information published with the financial statements:	
	(a)	the domicile and legal form of the entity, its country of incorporation and the address of its registered office (or principal place of business, if different from the registered office);	
	(b)	a description of the nature of the entity's operations and its principal activities; and	
	(c)	the name of the parent and the ultimate parent of the group.	
		Total Level of Compliance with IAS 1	

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Paragraph	Sub-paragraph	<i>IAS 2 ‘Inventories’</i>	
36		The financial statements shall disclose:	
	(a)	the accounting policies adopted in measuring inventories, including the cost formula used;	
	(b)	the total carrying amount of inventories and the carrying amount in classifications appropriate to the entity;	
	(c)	the carrying amount of inventories carried at fair value less costs to sell;	
	(d)	the amount of inventories recognised as an expense during the period;	
	(e)	the amount of any write-down of inventories recognised as an expense in the period in accordance with paragraph 34 [When inventories are sold, the carrying amount of those inventories shall be recognised as an expense in the period in which the related revenue is recognised. The amount of any write-down of inventories to net realisable value and all losses of inventories shall be recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value, shall be recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.];	
	(f)	the amount of any reversal of any write-down that is recognised as a reduction in the amount of inventories recognised as expense in the period in accordance with paragraph 34;	
	(g)	the circumstances or events that led to the reversal of a write-down of inventories in accordance with paragraph 34; and	
	(h)	the carrying amount of inventories pledged as security for liabilities.	
		Total Level of Compliance with IAS 2	
Paragraph	Sub-paragraph	<i>IAS 7 Cash Flow Statements</i>	
10		The cash flow statement shall report cash flows during the period classified by operating, investing and financing activities.	
31		Cash flows from interest and dividends received and paid shall each be disclosed separately. Each shall be classified in a consistent manner from period to period as either operating, investing or financing activities.	
35		Cash flows arising from taxes on income shall be separately disclosed and shall be classified as cash flows from operating activities unless they can be specifically identified with financing and investing activities.	
39		The aggregate cash flows arising from acquisitions and from disposals of subsidiaries or other business units shall be presented separately and classified as investing activities.	
40		An entity shall disclose, in aggregate, in respect of both acquisitions and disposals of subsidiaries or other business units during the period each of the following:	
	(a)	the total purchase or disposal consideration;	
	(b)	the portion of the purchase or disposal consideration discharged by means of cash and cash equivalents;	
	(c)	the amount of cash and cash equivalents in the subsidiary or business unit acquired or disposed of; and	

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	(d)	the amount of the assets and liabilities other than cash or cash equivalents in the subsidiary or business unit acquired or disposed of, summarised by each major category.	
45		An entity shall disclose the components of cash and cash equivalents and shall present a reconciliation of the amounts in its cash flow statement with the equivalent items reported in the balance sheet.	
48		An entity shall disclose, together with a commentary by management, the amount of significant cash and cash equivalent balances held by the entity that are not available for use by the group.	
		Total Level of Compliance with IAS 7	
Paragraph	Sub-paragraph	<i>IAS 8 ‘Accounting Policies, Changes in Accounting Estimates and Errors’</i>	
28		When initial application of a Standard or an Interpretation has an effect on the current period or any prior period, would have such an effect except that it is impracticable to determine the amount of the adjustment, or might have an effect on future periods, an entity shall disclose:	
	(a)	the title of the Standard or Interpretation;	
	(b)	when applicable, that the change in accounting policy is made in accordance with its transitional provisions;	
	(c)	the nature of the change in accounting policy;	
	(d)	when applicable, a description of the transitional provisions;	
	(e)	when applicable, the transitional provisions that might have an effect on future periods;	
	(f)	for the current period and each prior period presented, to the extent practicable, the amount of the adjustment: (i) for each financial statement line item affected; and (ii) if IAS 33 Earnings per Share applies to the entity, for basic and diluted earnings per share;	
	(g)	the amount of the adjustment relating to periods before those presented, to the extent practicable; and	
	(h)	if retrospective application required by paragraph 19(a) or (b) is impracticable for a particular prior period, or for periods before those presented, the circumstances that led to the existence of that condition and a description of how and from when the change in accounting policy has been applied.	
30		When an entity has not applied a new Standard or Interpretation that has been issued but is not yet effective, the entity shall disclose:	
	(a)	this fact; and	
	(b)	known or reasonably estimable information relevant to assessing the possible impact that application of the new Standard or Interpretation will have on the entity’s financial statements in the period of initial application.	
39		An entity shall disclose the nature and amount of a change in an accounting estimate that has an effect in the current period or is expected to have an effect in future periods, except for the disclosure of the effect on future periods when it is impracticable to estimate that effect.	
40		If the amount of the effect in future periods is not disclosed because estimating it is impracticable, an entity shall disclose that fact.	
49		In applying paragraph 42 [an entity shall correct material prior period errors retrospectively in the first set of financial statements authorised for issue after their discovery], an entity shall disclose the following:	

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	(a)	the nature of the prior period error;	
	(b)	for each prior period presented, to the extent practicable, the amount of the correction: (i) for each financial statement line item affected; and (ii) if IAS 33 applies to the entity, for basic and diluted earnings per share;	
	(c)	the amount of the correction at the beginning of the earliest prior period presented; and	
	(d)	if retrospective restatement is impracticable for a particular prior period, the circumstances that led to the existence of that condition and a description of how and from when the error has been corrected.	
		Total Level of Compliance with IAS 8	
Paragraph	Sub-paragraph	<i>IAS 10 ‘Events after the balance sheet date’</i>	
17		An entity shall disclose the date when the financial statements were authorised for issue and who gave that authorisation. If the entity’s owners or others have the power to amend the financial statements after issue, the entity shall disclose that fact.	
19		If an entity receives information after the balance sheet date about conditions that existed at the balance sheet date, it shall update disclosures that relate to those conditions, in the light of the new information.	
21		If non-adjusting events after the balance sheet date are material, non-disclosure could influence the economic decisions of users taken on the basis of the financial statements. Accordingly, an entity shall disclose the following for each material category of non-adjusting event after the balance sheet date:	
	(a)	the nature of the event; and	
	(b)	an estimate of its financial effect, or a statement that such an estimate cannot be made.	
		Total Level of Compliance with IAS 10	
Paragraph	Sub-paragraph	<i>IAS 11 ‘Construction Contracts’</i>	
39		An entity shall disclose:	
	(a)	the amount of contract revenue recognised as revenue in the period;	
	(b)	the methods used to determine the contract revenue recognised in the period; and	
	(c)	the methods used to determine the stage of completion of contracts in progress.	
40		An entity shall disclose each of the following for contracts in progress at the balance sheet date:	
	(a)	the aggregate amount of costs incurred and recognised profits (less recognised losses) to date;	
	(b)	the amount of advances received; and	
	(c)	the amount of retentions.	
42		An entity shall present:	
	(a)	the gross amount due from customers for contract work as an asset;	
	(b)	the gross amount due to customers for contract work as a liability.	
		Total Level of Compliance with IAS 11	

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Paragraph	Sub-paragraph	<i>IAS 12 'Income Taxes'</i>
77		The tax expense (income) related to profit or loss from ordinary activities shall be presented on the face of the income statement.
79		The major components of tax expense (income) shall be disclosed separately.
81		The following shall also be disclosed separately:
	(a)	the aggregate current and deferred tax relating to items that are charged or credited to equity;
	(c)	an explanation of the relationship between tax expense (income) and accounting profit in either or both of the following forms: (i) a numerical reconciliation between tax expense (income) and the product of accounting profit multiplied by the applicable tax rate(s), disclosing also the basis on which the applicable tax rate(s) is (are) computed; or (ii) a numerical reconciliation between the average effective tax rate and the applicable tax rate, disclosing also the basis on which the applicable tax rate is computed;
	(d)	an explanation of changes in the applicable tax rate(s) compared to the previous accounting period;
	(e)	the amount (and expiry date, if any) of deductible temporary differences, unused tax losses, and unused tax credits for which no deferred tax asset is recognised in the balance sheet;
	(f)	the aggregate amount of temporary differences associated with investments in subsidiaries, branches and associates and interests in joint ventures, for which deferred tax liabilities have not been recognised (see paragraph 39);
	(g)	in respect of each type of temporary difference, and in respect of each type of unused tax losses and unused tax credits: (i) the amount of the deferred tax assets and liabilities recognised in the balance sheet for each period presented; (ii) the amount of the deferred tax income or expense recognised in the income statement, if this is not apparent from the changes in the amounts recognised in the balance sheet;
	(h)	in respect of discontinued operations, the tax expense relating to: (i) the gain or loss on discontinuance; and (ii) the profit or loss from the ordinary activities of the discontinued operation for the period, together with the corresponding amounts for each prior period presented; and (i) the amount of income tax consequences of dividends to shareholders of the entity that were proposed or declared before the financial statements were authorised for issue, but are not recognised as a liability in the financial statements.
82		An entity shall disclose the amount of a deferred tax asset and the nature of the evidence supporting its recognition, when: (a) the utilisation of the deferred tax asset is dependent on future taxable profits in excess of the profits arising from the reversal of existing taxable temporary differences; and (b) the entity has suffered a loss in either the current or preceding period in the tax jurisdiction to which the deferred tax asset relates.
82A		In the circumstances described in paragraph 52A [In circumstances where current and deferred tax assets and liabilities are measured at the tax rate applicable to undistributed profits], an entity shall disclose the nature of the potential income tax consequences that would result from the payment of dividends to its shareholders. In addition, the entity shall disclose the amounts of the potential income tax consequences practicably determinable and whether there are any

		potential income tax consequences not practicably determinable.	
		Total Level of Compliance with IAS 12	
Paragraph	Sub-paragraph	<i>IAS 14 ‘Segment reporting’</i>	
51		An entity shall disclose segment revenue for each reportable segment. Segment revenue from sales to external customers and segment revenue from transactions with other segments shall be separately reported.	
52		An entity shall disclose segment result for each reportable segment, presenting the result from continuing operations separately from the result from discontinued operations.	
52 A		An entity shall restate segment results in prior periods presented in the financial statements so that the disclosures required by paragraph 52 relating to discontinued operations relate to all operations that had been classified as discontinued at the balance sheet date of the latest period presented.	
55		An entity shall disclose the total carrying amount of segment assets for each reportable segment.	
56		An entity shall disclose segment liabilities for each reportable segment.	
57		An entity shall disclose the total cost incurred during the period to acquire segment assets that are expected to be used during more than one period (property, plant, equipment, and intangible assets) for each reportable segment. While this sometimes is referred to as capital additions or capital expenditure, the measurement required by this principle shall be on an accrual basis, not a cash basis.	
58		An entity shall disclose the total amount of expense included in segment result for depreciation and amortisation of segment assets for the period for each reportable segment.	
61		An entity shall disclose, for each reportable segment, the total amount of significant non-cash expenses, other than depreciation and amortisation for which separate disclosure is required by paragraph 58, that were included in segment expense and, therefore, deducted in measuring segment result.	
64		An entity shall disclose, for each reportable segment, the aggregate of the entity’s share of the profit or loss of associates, joint ventures, or other investments accounted for under the equity method if substantially all of those associates’ operations are within that single segment.	
66		If an entity’s aggregate share of the profit or loss of associates, joint ventures, or other investments accounted for under the equity method is disclosed by reportable segment, the aggregate investments in those associates and joint ventures shall also be disclosed by reportable segment.	
67		An entity shall present a reconciliation between the information disclosed for reportable segments and the aggregated information in the consolidated or individual financial statements. In presenting the reconciliation, the entity shall reconcile segment revenue to entity revenue from external customers (including disclosures of the amount of entity revenue from external customers not included in any segment); segment result from continuing operations shall be reconciled to a comparable measure of entity operating profit or loss from continuing operations as well as to entity profit or loss from	

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		continuing operations; segment result from discontinued operations shall be reconciled to entity profit or loss from discontinued operations; segment assets shall be reconciled to entity assets; and segment liabilities shall be reconciled to entity liabilities.	
69		If an entity's primary format for reporting segment information is business segments, it shall also report the following information:	
	(a)	segment revenue from external customers by geographical area based on the geographical location of its customers, for each geographical segment whose revenue from sales to external customers is 10 per cent or more of total entity revenue from sales to all external customers;	
	(b)	the total carrying amount of segment assets by geographical location of assets, for each geographical segment whose segment assets are 10 per cent or more of the total assets of all geographical segments; and	
	(c)	the total cost incurred during the period to acquire segment assets that are expected to be used during more than one period (property, plant, equipment, and intangible assets) by geographical location of assets, for each geographical segment whose segment assets are 10 per cent or more of the total assets of all geographical segments.	
70		If an entity's primary format for reporting segment information is geographical segments (whether based on location of assets or location of customers), it shall also report the following segment information for each business segment whose revenue from sales to external customers is 10 per cent or more of total entity revenue from sales to all external customers or whose segment assets are 10 per cent or more of the total assets of all business segments:	
	(a)	segment revenue from external customers;	
	(b)	the total carrying amount of segment assets; and	
	(c)	the total cost incurred during the period to acquire segment assets that are expected to be used during more than one period (property, plant, equipment, and intangible assets).	
75		In measuring and reporting segment revenue from transactions with other segments, inter-segment transfers shall be measured on the basis that the entity actually used to price those transfers. The basis of pricing inter-segment transfers and any change therein shall be disclosed in the financial statements.	
76		Changes in accounting policies adopted for segment reporting that have a material effect on segment information shall be disclosed, and prior period segment information presented for comparative purposes shall be restated unless it is impracticable to do so. Such disclosure shall include a description of the nature of the change, the reasons for the change, the fact that comparative information has been restated or that it is impracticable to do so, and the financial effect of the change, if it is reasonably determinable. If an entity changes the identification of its segments and it does not restate prior period segment information on the new basis because it is impracticable to do so, then for the purpose of comparison the entity shall report segment data for both the old and the new bases of segmentation in the year in which it changes the identification of its segments.	
81		An entity shall indicate the types of products and services included in each reported business segment and indicate the composition of each reported geographical segment, both primary and secondary, if not otherwise disclosed in the financial statements or elsewhere in the financial report.	

		Total Level of Compliance with IAS 14	
Paragraph	Sub-paragraph	<i>IAS 16 'Property, Plant & Equipment'</i>	
73		The financial statements shall disclose, for each class of property, plant and equipment:	
	(a)	the measurement bases used for determining the gross carrying amount;	
	(b)	the depreciation methods used;	
	(c)	the useful lives or the depreciation rates used;	
	(d)	the gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period; and	
	(e)	a reconciliation of the carrying amount at the beginning and end of the period showing: (i) additions; (ii) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS 5 and other disposals; (iii) acquisitions through business combinations; (iv) increases or decreases resulting from revaluations under paragraphs 31, 39 and 40 and from impairment losses recognised or reversed directly in equity in accordance with IAS 36; (v) impairment losses recognised in profit or loss in accordance with IAS 36; (vi) impairment losses reversed in profit or loss in accordance with IAS 36; (vii) depreciation; (viii) the net exchange differences arising on the translation of the financial statements from the functional currency into a different presentation currency, including the translation of a foreign operation into the presentation currency of the reporting entity; and (ix) other changes.	
74		The financial statements shall also disclose:	
	(a)	the existence and amounts of restrictions on title, and property, plant and equipment pledged as security for liabilities;	
	(b)	the amount of expenditures recognised in the carrying amount of an item of property, plant and equipment in the course of its construction;	
	(c)	the amount of contractual commitments for the acquisition of property, plant and equipment; and	
	(d)	if it is not disclosed separately on the face of the income statement, the amount of compensation from third parties for items of property, plant and equipment that were impaired, lost or given up that is included in profit or loss.	
77		If items of property, plant and equipment are stated at revalued amounts, the following shall be disclosed:	
	(a)	the effective date of the revaluation;	
	(b)	whether an independent valuer was involved;	
	(c)	the methods and significant assumptions applied in estimating the items' fair values;	
	(d)	the extent to which the items' fair values were determined directly by reference to observable prices in an active market or recent market transactions on arm's length terms or were estimated using other valuation techniques;	
	(e)	for each revalued class of property, plant and equipment, the carrying amount that would have been recognised had the assets been carried under the cost model; and	

	(f)	the revaluation surplus, indicating the change for the period and any restrictions on the distribution of the balance to shareholders.	
		Total Level of Compliance with IAS 16	
Paragraph	Sub-paragraph	IAS 17 ‘Leases’	
		Finance Leases	
31		Lessees shall, in addition to meeting the requirements of IAS 32 Financial Instruments: Disclosure and Presentation, make the following disclosures for finance leases:	
	(a)	for each class of asset, the net carrying amount at the balance sheet date.	
	(b)	a reconciliation between the total of future minimum lease payments at the balance sheet date, and their present value. In addition, an entity shall disclose the total of future minimum lease payments at the balance sheet date, and their present value, for each of the following periods: (i) not later than one year; (ii) later than one year and not later than five years; (iii) later than five years.	
	(c)	contingent rents recognised as an expense in the period.	
	(d)	the total of future minimum sublease payments expected to be received under non-cancellable subleases at the balance sheet date.	
	(e)	a general description of the lessee’s material leasing arrangements including, but not limited to, the following: (i) the basis on which contingent rent payable is determined; (ii) the existence and terms of renewal or purchase options and escalation clauses; and (iii) restrictions imposed by lease arrangements, such as those concerning dividends, additional debt, and further leasing.	
		Operating Leases	
35		Lessees shall, in addition to meeting the requirements of IAS 32 Financial Instruments: Disclosure and Presentation, make the following disclosures for operating leases:	
	(a)	the total of future minimum lease payments under non-cancellable operating leases for each of the following periods: (i) not later than one year; (ii) later than one year and not later than five years; (iii) later than five years.	
	(b)	the total of future minimum sublease payments expected to be received under non-cancellable subleases at the balance sheet date.	
	(c)	lease and sublease payments recognised as an expense in the period, with separate amounts for minimum lease payments, contingent rents, and sublease payments.	
	(d)	a general description of the lessee’s significant leasing arrangements including, but not limited to, the following: (i) the basis on which contingent rent payable is determined; (ii) the existence and terms of renewal or purchase options and escalation clauses; and (iii) restrictions imposed by lease arrangements, such as those concerning dividends, additional debt and further leasing.	
		Finance Leases	
47		Lessors shall, in addition to meeting the requirements in IAS 32, disclose the following for finance leases:	

	(a)	a reconciliation between the gross investment in the lease at the balance sheet date, and the present value of minimum lease payments receivable at the balance sheet date. In addition, an entity shall disclose the gross investment in the lease and the present value of minimum lease payments receivable at the balance sheet date, for each of the following periods: (i) not later than one year; (ii) later than one year and not later than five years; (iii) later than five years.	
	(b)	unearned finance income.	
	(c)	the unguaranteed residual values accruing to the benefit of the lessor.	
	(d)	the accumulated allowance for uncollectible minimum lease payments receivable.	
	(e)	contingent rents recognised as income in the period.	
	(f)	a general description of the lessor's material leasing arrangements.	
		Operating Leases	
56		Lessors shall, in addition to meeting the requirements of IAS 32, disclose the following for operating leases:	
	(a)	the future minimum lease payments under non-cancellable operating leases in the aggregate and for each of the following periods: (i) not later than one year; (ii) later than one year and not later than five years; (iii) later than five years.	
	(b)	total contingent rents recognised as income in the period.	
	(c)	a general description of the lessor's leasing arrangements.	
65		Disclosure requirements for lessees and lessors apply equally to sale and leaseback transactions. The required description of material leasing arrangements leads to disclosure of unique or unusual provisions of the agreement or terms of the sale and leaseback transactions.	
		Total Level of Compliance with IAS 17	
Paragraph	Sub-paragraph	IAS 18 'Revenue'	
35		An entity shall disclose:	
	(a)	the accounting policies adopted for the recognition of revenue, including the methods adopted to determine the stage of completion of transactions involving the rendering of services;	
	(b)	the amount of each significant category of revenue recognised during the period, including revenue arising from: (i) the sale of goods; (ii) the rendering of services; (iii) interest; (iv) royalties; (v) dividends; and	
	(c)	the amount of revenue arising from exchanges of goods or services included in each significant category of revenue.	
		Total Level of Compliance with IAS 18	
Paragraph	Sub-paragraph	IAS 19 'Employee Benefits'	
46		An entity shall disclose the amount recognised as an expense for defined contribution plans.	
120A		An entity shall disclose the following information about defined benefit plans:	
	(a)	the entity's accounting policy for recognising actuarial gains and losses.	
	(b)	a general description of the type of plan.	

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	(c)	a reconciliation of opening and closing balances of the present value of the defined benefit obligation showing separately, if applicable, the effects during the period attributable to each of the following: (i) current service cost, (ii) interest cost, (iii) contributions by plan participants, (iv) actuarial gains and losses, (v) foreign currency exchange rate changes on plans measured in a currency different from the entity's presentation currency, (vi) benefits paid, (vii) past service cost, (viii) business combinations, (ix) curtailments and (x) settlements.	
	(d)	an analysis of the defined benefit obligation into amounts arising from plans that are wholly unfunded and amounts arising from plans that are wholly or partly funded.	
	(e)	a reconciliation of the opening and closing balances of the fair value of plan assets and of the opening and closing balances of any reimbursement right recognised as an asset in accordance with paragraph 104A showing separately, if applicable, the effects during the period attributable to each of the following: (i) expected return on plan assets, (ii) actuarial gains and losses, (iii) foreign currency exchange rate changes on plans measured in a currency different from the entity's presentation currency, (iv) contributions by the employer, (v) contributions by plan participants, (vi) benefits paid, (vii) business combinations and (viii) settlements.	
	(f)	a reconciliation of the present value of the defined benefit obligation in (c) and the fair value of the plan assets in (e) to the assets and liabilities recognised in the balance sheet, showing at least: (i) the net actuarial gains or losses not recognised in the balance sheet (see paragraph 92); (ii) the past service cost not recognised in the balance sheet (see paragraph 96); (iii) any amount not recognised as an asset, because of the limit in paragraph 58(b); (iv) the fair value at the balance sheet date of any reimbursement right recognised as an asset in accordance with paragraph 104A (with a brief description of the link between the reimbursement right and the related obligation); and (v) the other amounts recognised in the balance sheet.	
	(g)	the total expense recognised in profit or loss for each of the following, and the line item(s) in which they are included: (i) current service cost; (ii) interest cost; (iii) expected return on plan assets; (iv) expected return on any reimbursement right recognised as an asset in accordance with paragraph 104A; (v) actuarial gains and losses; (vi) past service cost; (vii) the effect of any curtailment or settlement; and (viii) the effect of the limit in paragraph 58(b).	
	(h)	the total amount recognised in the statement of recognised income and expense for each of the following: (i) actuarial gains and losses; and (ii) the effect of the limit in paragraph 58(b).	
	(i)	for entities that recognise actuarial gains and losses in the statement of recognised income and expense in accordance with paragraph 93A, the cumulative amount of actuarial gains and losses recognised in the statement of recognised income and expense.	
	(j)	for each major category of plan assets, which shall include, but is not limited to, equity instruments, debt instruments, property, and all other assets, the percentage or amount that each major category constitutes of the fair value of the total plan assets.	
	(k)	the amounts included in the fair value of plan assets for: (i) each category of the entity's own financial instruments; and (ii) any property occupied by, or other assets used by, the entity.	

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	(l)	a narrative description of the basis used to determine the overall expected rate of return on assets, including the effect of the major categories of plan assets.	
	(m)	the actual return on plan assets, as well as the actual return on any reimbursement right recognised as an asset in accordance with paragraph 104A.	
120A (n)		the principal actuarial assumptions used as at the balance sheet date, including, when applicable:	
	(1)	the discount rates;	
	(2)	the expected rates of return on any plan assets for the periods presented in the financial statements;	
	(3)	the expected rates of return for the periods presented in the financial statements on any reimbursement right recognised as an asset in accordance with paragraph 104A;	
	(4)	the expected rates of salary increases (and of changes in an index or other variable specified in the formal or constructive terms of a plan as the basis for future benefit increases);	
	(5)	medical cost trend rates; and	
	(6)	any other material actuarial assumptions used.	
		An entity shall disclose each actuarial assumption in absolute terms (for example, as an absolute percentage) and not just as a margin between different percentages or other variables.	
	(o)	the effect of an increase of one percentage point and the effect of a decrease of one percentage point in the assumed medical cost trend rates on: (i) the aggregate of the current service cost and interest cost components of net periodic post-employment medical costs; and (ii) the accumulated post-employment benefit obligation for medical costs. For the purposes of this disclosure, all other assumptions shall be held constant. For plans operating in a high inflation environment, the disclosure shall be the effect of a percentage increase or decrease in the assumed medical cost trend rate of a significance similar to one percentage point in a low inflation environment.	
	(p)	the amounts for the current annual period and previous four annual periods of: (i) the present value of the defined benefit obligation, the fair value of the plan assets and the surplus or deficit in the plan; and (ii) the experience adjustments arising on: (A) the plan liabilities expressed either as (1) an amount or (2) a percentage of the plan liabilities at the balance sheet date and (B) the plan assets expressed either as (1) an amount or (2) a percentage of the plan assets at the balance sheet date.	
	(q)	the employer's best estimate, as soon as it can reasonably be determined, of contributions expected to be paid to the plan during the annual period beginning after the balance sheet date.	
		Total Level of Compliance with IAS 19	
Paragraph	Sub-paragraph	<i>IAS 20 'Accounting for Government Grants and Disclosure of Government Assistance'</i>	
39		The following matters shall be disclosed:	
	(a)	the accounting policy adopted for government grants, including the methods of presentation adopted in the financial statements;	
	(b)	the nature and extent of government grants recognised in the financial statements and an indication of other forms of government assistance from which the entity has directly benefited; and	

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	(c)	unfulfilled conditions and other contingencies attaching to government assistance that has been recognised.	
		Total Level of Compliance with IAS 20	
Paragraph	Sub-paragraph	IAS 21 ‘The Effects of Changes in Foreign Exchange Rates’	
52		An entity shall disclose:	
	(a)	the amount of exchange differences recognised in profit or loss except for those arising on financial instruments measured at fair value through profit or loss in accordance with IAS 39; and	
	(b)	net exchange differences classified in a separate component of equity, and a reconciliation of the amount of such exchange differences at the beginning and end of the period.	
53		When the presentation currency is different from the functional currency, that fact shall be stated, together with disclosure of the functional currency and the reason for using a different presentation currency.	
54		When there is a change in the functional currency of either the reporting entity or a significant foreign operation, that fact and the reason for the change in functional currency shall be disclosed.	
55		When an entity presents its financial statements in a currency that is different from its functional currency, it shall describe the financial statements as complying with International Financial Reporting Standards only if they comply with all the requirements of each applicable Standard and each applicable Interpretation of those Standards including the translation method set out in paragraphs 39 and 42.	
57		When an entity displays its financial statements or other financial information in a currency that is different from either its functional currency or its presentation currency and the requirements of paragraph 55 are not met, it shall:	
	(a)	clearly identify the information as supplementary information to distinguish it from the information that complies with International Financial Reporting Standards;	
	(b)	disclose the currency in which the supplementary information is displayed; and	
	(c)	disclose the entity’s functional currency and the method of translation used to determine the supplementary information.	
		Total Level of Compliance with IAS 21	
Paragraph	Sub-paragraph	IAS 23 ‘Borrowing Costs’	
29		The financial statements shall disclose:	
	(a)	the accounting policy adopted for borrowing costs;	
	(b)	the amount of borrowing costs capitalised during the period; and	
	(c)	the capitalisation rate used to determine the amount of borrowing costs eligible for capitalisation.	
		Total Level of Compliance with IAS 23	
Paragraph	Sub-paragraph	IAS 24 ‘Related Party Disclosures’	

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12		Relationships between parents and subsidiaries shall be disclosed irrespective of whether there have been transactions between those related parties. An entity shall disclose the name of the entity's parent and, if different, the ultimate controlling party. If neither the entity's parent nor the ultimate controlling party produces financial statements available for public use, the name of the next most senior parent that does so shall also be disclosed.	
16		An entity shall disclose key management personnel compensation in total and for each of the following categories:	
	(a)	short-term employee benefits;	
	(b)	post-employment benefits;	
	(c)	other long-term benefits;	
	(d)	termination benefits; and	
	(e)	share-based payment.	
17		If there have been transactions between related parties, an entity shall disclose the nature of the related party relationship as well as information about the transactions and outstanding balances necessary for an understanding of the potential effect of the relationship on the financial statements. These disclosure requirements are in addition to the requirements in paragraph 16 to disclose key management personnel compensation. At a minimum, disclosures shall include:	
	(a)	the amount of the transactions;	
	(b)	the amount of outstanding balances and: (i) their terms and conditions, including whether they are secured, and the nature of the consideration to be provided in settlement; and (ii) details of any guarantees given or received;	
	(c)	provisions for doubtful debts related to the amount of outstanding balances; and	
	(d)	the expense recognised during the period in respect of bad or doubtful debts due from related parties.	
18		The disclosures required by paragraph 17 shall be made separately for each of the following categories:	
	(a)	the parent;	
	(b)	entities with joint control or significant influence over the entity;	
	(c)	subsidiaries;	
	(d)	associates;	
	(e)	joint ventures in which the entity is a venturer;	
	(f)	key management personnel of the entity or its parent; and	
	(g)	other related parties	
		Total Level of Compliance with IAS 24	
Paragraph	Sub-paragraph	IAS 27 'Consolidated and Separate Financial Statements'	
40		The following disclosures shall be made in consolidated financial statements:	
	(c)	the nature of the relationship between the parent and a subsidiary when the parent does not own, directly or indirectly through subsidiaries, more than half of the voting power;	
	(d)	the reasons why the ownership, directly or indirectly through subsidiaries, of more than half of the voting or potential voting power of an investee does not constitute control;	

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	(e)	the reporting date of the financial statements of a subsidiary when such financial statements are used to prepare consolidated financial statements and are as of a reporting date or for a period that is different from that of the parent, and the reason for using a different reporting date or period; and	
	(f)	the nature and extent of any significant restrictions (eg resulting from borrowing arrangements or regulatory requirements) on the ability of subsidiaries to transfer funds to the parent in the form of cash dividends or to repay loans or advances.	
41		When separate financial statements are prepared for a parent that, in accordance with paragraph 10, elects not to prepare consolidated financial statements, those separate financial statements shall disclose:	
	(a)	the fact that the financial statements are separate financial statements; that the exemption from consolidation has been used; the name and country of incorporation or residence of the entity whose consolidated financial statements that comply with International Financial Reporting Standards have been produced for public use; and the address where those consolidated financial statements are obtainable;	
	(b)	a list of significant investments in subsidiaries, jointly controlled entities and associates, including the name, country of incorporation or residence, proportion of ownership interest and, if different, proportion of voting power held; and	
	(c)	a description of the method used to account for the investments listed under (b).	
42		When a parent (other than a parent covered by paragraph 41), venturer with an interest in a jointly controlled entity or an investor in an associate prepares separate financial statements, those separate financial statements shall disclose:	
	(a)	the fact that the statements are separate financial statements and the reasons why those statements are prepared if not required by law;	
	(b)	a list of significant investments in subsidiaries, jointly controlled entities and associates, including the name, country of incorporation or residence, proportion of ownership interest and, if different, proportion of voting power held; and	
	(c)	a description of the method used to account for the investments listed under (b);	
	(d)	and shall identify the financial statements prepared in accordance with paragraph 9 of this Standard, IAS 28 and IAS 31 to which they relate.	
		Total Level of Compliance with IAS 27	
Paragraph	Sub-paragraph	<i>IAS 28 'Investments in Associates'</i>	
37		The following disclosures shall be made:	
	(a)	the fair value of investments in associates for which there are published price quotations;	
	(b)	summarised financial information of associates, including the aggregated amounts of assets, liabilities, revenues and profit or loss;	
	(c)	the reasons why the presumption that an investor does not have significant influence is overcome if the investor holds, directly or indirectly through subsidiaries, less than 20 per cent of the voting or potential voting power of the investee but concludes that it has significant influence;	

	(d)	the reasons why the presumption that an investor has significant influence is overcome if the investor holds, directly or indirectly through subsidiaries, 20 per cent or more of the voting or potential voting power of the investee but concludes that it does not have significant influence;	
	(e)	the reporting date of the financial statements of an associate, when such financial statements are used in applying the equity method and are as of a reporting date or for a period that is different from that of the investor, and the reason for using a different reporting date or different period;	
	(f)	the nature and extent of any significant restrictions (eg resulting from borrowing arrangements or regulatory requirements) on the ability of associates to transfer funds to the investor in the form of cash dividends, or repayment of loans or advances;	
	(g)	the unrecognised share of losses of an associate, both for the period and cumulatively, if an investor has discontinued recognition of its share of losses of an associate;	
	(h)	the fact that an associate is not accounted for using the equity method in accordance with paragraph 13; and	
	(i)	summarised financial information of associates, either individually or in groups, that are not accounted for using the equity method, including the amounts of total assets, total liabilities, revenues and profit or loss.	
38		Investments in associates accounted for using the equity method shall be classified as non-current assets. The investor's share of the profit or loss of such associates, and the carrying amount of those investments, shall be separately disclosed. The investor's share of any discontinued operations of such associates shall also be separately disclosed.	
39		The investor's share of changes recognised directly in the associate's equity shall be recognised directly in equity by the investor and shall be disclosed in the statement of changes in equity as required by IAS 1 Presentation of Financial Statements.	
40		In accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets the investor shall disclose:	
	(a)	its share of the contingent liabilities of an associate incurred jointly with other investors; and	
	(b)	those contingent liabilities that arise because the investor is severally liable for all or part of the liabilities of the associate.	
		Total Level of Compliance with IAS 28	
Paragraph	Sub-paragraph	<i>IAS 31 'Interests in Joint Ventures'</i>	
54		A venturer shall disclose the aggregate amount of the following contingent liabilities, unless the probability of loss is remote, separately from the amount of other contingent liabilities:	
	(a)	any contingent liabilities that the venturer has incurred in relation to its interests in joint ventures and its share in each of the contingent liabilities that have been incurred jointly with other venturers;	
	(b)	its share of the contingent liabilities of the joint ventures themselves for which it is contingently liable; and	
	(c)	those contingent liabilities that arise because the venturer is contingently liable for the liabilities of the other venturers of a joint venture.	

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55		A venturer shall disclose the aggregate amount of the following commitments in respect of its interests in joint ventures separately from other commitments:
	(a)	any capital commitments of the venturer in relation to its interests in joint ventures and its share in the capital commitments that have been incurred jointly with other venturers; and
	(b)	its share of the capital commitments of the joint ventures themselves.
56	A	A venturer shall disclose a listing and description of interests in significant joint ventures and the proportion of ownership interest held in jointly controlled entities.
56	B	A venturer that recognises its interests in jointly controlled entities using the line-by-line reporting format for proportionate consolidation or the equity method shall disclose the aggregate amounts of each of current assets, long-term assets, current liabilities, long-term liabilities, income and expenses related to its interests in joint ventures.
57		A venturer shall disclose the method it uses to recognise its interests in jointly controlled entities.
Total Level of Compliance with IAS 31		
Paragraph	Sub-paragraph	<i>IAS 32 ‘Financial Instruments: Disclosure and Presentation’</i>
56		An entity shall describe its financial risk management objectives and policies, including its policy for hedging each main type of forecast transaction for which hedge accounting is used.
58		An entity shall disclose the following separately for designated fair value hedges, cash flow hedges and hedges of a net investment in a foreign operation (as defined in IAS 39):
	(a)	a description of the hedge;
	(b)	a description of the financial instruments designated as hedging instruments and their fair values at the balance sheet date;
	(c)	the nature of the risks being hedged; and
	(d)	for cash flow hedges, the periods in which the cash flows are expected to occur, when they are expected to enter into the determination of profit or loss, and a description of any forecast transaction for which hedge accounting had previously been used but which is no longer expected to occur.
59		When a gain or loss on a hedging instrument in a cash flow hedge has been recognised directly in equity, through the statement of changes in equity, an entity shall disclose:
	(a)	the amount that was so recognised in equity during the period;
	(b)	the amount that was removed from equity and included in profit or loss for the period; and
	(c)	the amount that was removed from equity during the period and included in the initial measurement of the acquisition cost or other carrying amount of a non-financial asset or non-financial liability in a hedged highly probable forecast transaction.
60		For each class of financial asset, financial liability and equity instrument, an entity shall disclose:
	(a)	information about the extent and nature of the financial instruments, including significant terms and conditions that may affect the amount, timing and certainty of future cash flows; and
	(b)	the accounting policies and methods adopted, including the criteria

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		for recognition and the basis of measurement applied.	
61		As part of the disclosure of an entity's accounting policies, an entity shall disclose, for each category of financial assets, whether regular way purchases and sales of financial assets are accounted for at trade date or at settlement date (see IAS 39, paragraph 38).	
67		For each class of financial assets and financial liabilities, an entity shall disclose information about its exposure to interest rate risk, including:	
	(a)	contractual repricing or maturity dates, whichever dates are earlier; and	
	(b)	effective interest rates, when applicable.	
76		For each class of financial assets and other credit exposures, an entity shall disclose information about its exposure to credit risk, including:	
	(a)	the amount that best represents its maximum credit risk exposure at the balance sheet date, without taking account of the fair value of any collateral, in the event of other parties failing to perform their obligations under financial instruments; and	
	(b)	significant concentrations of credit risk.	
86		Except as set out in paragraph 90 and 91A , for each class of financial assets and financial liabilities, an entity shall disclose the fair value of that class of assets and liabilities in a way that permits it to be compared with the corresponding carrying amount in the balance sheet.	
90		If investments in unquoted equity instruments or derivatives linked to such equity instruments are measured at cost under IAS 39 because their fair value cannot be measured reliably, that fact shall be disclosed together with a description of the financial instruments, their carrying amount, an explanation of why fair value cannot be measured reliably and, if possible, the range of estimates within which fair value is highly likely to lie. Furthermore, if financial assets whose fair value previously could not be reliably measured are sold, that fact, the carrying amount of such financial assets at the time of sale and the amount of gain or loss recognised shall be disclosed.	
92		An entity shall disclose:	
	(a)	the methods and significant assumptions applied in determining fair values of financial assets and financial liabilities separately for significant classes of financial assets and financial liabilities.	
	(b)	whether fair values of financial assets and financial liabilities are determined directly, in full or in part, by reference to published price quotations in an active market or are estimated using a valuation technique	
	(c)	whether its financial statements include financial instruments measured at fair values that are determined in full or in part using a valuation technique based on assumptions that are not supported by observable market prices or rates. If changing any such assumption to a reasonably possible alternative would result in a significantly different fair value, the entity shall state this fact and disclose the effect on the fair value of a range of reasonably possible alternative assumptions. For this purpose, significance shall be judged with respect to profit or loss and total assets or total liabilities.	
	(d)	the total amount of the change in fair value estimated using a valuation technique that was recognised in profit or loss during the period.	
94		Derecognition	

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	(a)	An entity may have either transferred a financial asset (see paragraph 18 of IAS 39) or entered into the type of arrangement described in paragraph 19 of IAS 39 in such a way that the arrangement does not qualify as a transfer of a financial asset. If the entity either continues to recognise all of the asset or continues to recognise the asset to the extent of the entity's continuing involvement (see IAS 39, paragraphs 29 and 30) it shall disclose for each class of financial asset: (i) the nature of the assets; (ii) the nature of the risks and rewards of ownership to which the entity remains exposed; (iii) when the entity continues to recognise all of the asset, the carrying amounts of the asset and of the associated liability; and (iv) when the entity continues to recognise the asset to the extent of its continuing involvement, the total amount of the asset, the amount of the asset that the entity continues to recognise and the carrying amount of the associated liability.	
		Collateral	
	(b)	An entity shall disclose the carrying amount of financial assets pledged as collateral for liabilities, the carrying amount of financial assets pledged as collateral for contingent liabilities, and (consistently with paragraphs 60(a) and 63(g)) any material terms and conditions relating to assets pledged as collateral.	
	(c)	When an entity has accepted collateral that it is permitted to sell or repledge in the absence of default by the owner of the collateral, it shall disclose: (i) the fair value of the collateral accepted (financial and non-financial assets); (ii) the fair value of any such collateral sold or repledged and whether the entity has an obligation to return it; and (iii) any material terms and conditions associated with its use of this collateral (consistently with paragraphs 60(a) and 63(g)).	
		Compound financial instruments with multiple embedded derivatives	
	(d)	If an entity has issued an instrument that contains both a liability and an equity component (see paragraph 28) and the instrument has multiple embedded derivative features whose values are interdependent (such as a callable convertible debt instrument), it shall disclose the existence of those features and the effective interest rate on the liability component (excluding any embedded derivatives that are accounted for separately).	
		Financial assets and financial liabilities at fair value through profit or loss	
	(e)	An entity shall disclose the carrying amounts of financial assets and financial liabilities that: (i) are classified as held for trading; and (ii) were, upon initial recognition, designated by the entity as financial assets and financial liabilities at fair value through profit or loss	
	(f)	If the entity has designated a financial liability as at fair value through profit or loss, it shall disclose: (i) the amount of change in its fair value that is not attributable to changes in a benchmark interest rate (eg LIBOR); and (ii) the difference between its carrying amount and the amount the entity would be contractually required to pay at maturity to the holder of the obligation.	
		Reclassification	
	(g)	If the entity has reclassified a financial asset as one measured at cost or amortised cost rather than at fair value (see IAS 39, paragraph 54), it shall disclose the reason for that reclassification.	
		Income statement and equity	

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	(h)	An entity shall disclose material items of income, expense and gains and losses resulting from financial assets and financial liabilities, whether included in profit or loss or as a separate component of equity. For this purpose, the disclosure shall include at least the following items: (i) total interest income and total interest expense (calculated using the effective interest method) for financial assets and financial liabilities that are not at fair value through profit or loss; (ii) for available-for-sale financial assets, the amount of any gain or loss recognised directly in equity during the period and the amount that was removed from equity and recognised in profit or loss for the period; and (iii) the amount of interest income accrued on impaired financial assets, in accordance with IAS 39, paragraph AG93.
		Impairment
	(i)	An entity shall disclose the nature and amount of any impairment loss recognised in profit or loss for a financial asset, separately for each significant class of financial asset
		Defaults and breaches
	(j)	With respect to any defaults of principal, interest, sinking fund or redemption provisions during the period on loans payable recognised as at the balance sheet date, and any other breaches during the period of loan agreements when those breaches can permit the lender to demand repayment (except for breaches that are remedied, or inresponse to which the terms of the loan are renegotiated, on or before the balance sheet date), an entity shall disclose: (i) details of those breaches; (ii) the amount recognised as at the balance sheet date in respect of the loans payable on which the breaches occurred; and (iii) with respect to amounts disclosed under (ii), whether the default has been remedied or the terms of the loans payable renegotiated before the date the financial statements were authorised for issue.
		Total Level of Compliance with IAS 32
Paragraph	Sub-paragraph	<i>IAS 33 ‘Earnings per Share’</i>
66		An entity shall present on the face of the income statement basic and diluted earnings per share for profit or loss from continuing operations attributable to the ordinary equity holders of the parent entity and for profit or loss attributable to the ordinary equity holders of the parent entity for the period for each class of ordinary shares that has a different right to share in profit for the period. An entity shall present basic and diluted earnings per share with equal prominence for all periods presented.
68		An entity that reports a discontinued operation shall disclose the basic and diluted amounts per share for the discontinued operation either on the face of the income statement or in the notes to the financial statements.
69		An entity shall present basic and diluted earnings per share, even if the amounts are negative (ie a loss per share).
70		An entity shall disclose the following:
	(a)	the amounts used as the numerators in calculating basic and diluted earnings per share, and a reconciliation of those amounts to profit or loss attributable to the parent entity for the period. The reconciliation shall include the individual effect of each class of instruments that affects earnings per share.

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	(b)	the weighted average number of ordinary shares used as the denominator in calculating basic and diluted earnings per share, and a reconciliation of these denominators to each other. The reconciliation shall include the individual effect of each class of instruments that affects earnings per share.	
	(c)	instruments (including contingently issuable shares) that could potentially dilute basic earnings per share in the future, but were not included in the calculation of diluted earnings per share because they are antidilutive for the period(s) presented.	
	(d)	a description of ordinary share transactions or potential ordinary share transactions, other than those accounted for in accordance with paragraph 64, that occur after the balance sheet date and that would have changed significantly the number of ordinary shares or potential ordinary shares outstanding at the end of the period if those transactions had occurred before the end of the reporting period.	
73		If an entity discloses, in addition to basic and diluted earnings per share, amounts per share using a reported component of the income statement other than one required by this Standard, such amounts shall be calculated using the weighted average number of ordinary shares determined in accordance with this Standard. Basic and diluted amounts per share relating to such a component shall be disclosed with equal prominence and presented in the notes to the financial statements. An entity shall indicate the basis on which the numerator(s) is (are) determined, including whether amounts per share are before tax or after tax. If a component of the income statement is used that is not reported as a line item in the income statement, a reconciliation shall be provided between the component used and a line item that is reported in the income statement.	
		Total Level of Compliance with IAS 33	
Paragraph	Sub-paragraph	IAS 36 'Impairment of Assets'	
126		An entity shall disclose the following for each class of assets:	
	(a)	the amount of impairment losses recognised in profit or loss during the period and the line item(s) of the income statement in which those impairment losses are included.	
	(b)	the amount of reversals of impairment losses recognised in profit or loss during the period and the line item(s) of the income statement in which those impairment losses are reversed.	
	(c)	the amount of impairment losses on revalued assets recognised directly in equity during the period.	
	(d)	the amount of reversals of impairment losses on revalued assets recognised directly in equity during the period.	
129		An entity that reports segment information in accordance with IAS 14 Segment Reporting shall disclose the following for each reportable segment based on an entity's primary reporting format:	
	(a)	the amount of impairment losses recognised in profit or loss and directly in equity during the period.	
	(b)	the amount of reversals of impairment losses recognised in profit or loss and directly in equity during the period	
130		An entity shall disclose the following for each material impairment loss recognised or reversed during the period for an individual asset, including goodwill, or a cash-generating unit:	
	(a)	the events and circumstances that led to the recognition or reversal of	

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		the impairment loss.	
	(b)	the amount of the impairment loss recognised or reversed.	
	(c)	for an individual asset: (i) the nature of the asset; and (ii) if the entity reports segment information in accordance with IAS 14, the reportable segment to which the asset belongs, based on the entity's primary reporting format.	
	(d)	for a cash-generating unit: (i) a description of the cash-generating unit (such as whether it is a product line, a plant, a business operation, a geographical area, or a reportable segment as defined in IAS 14); (ii) the amount of the impairment loss recognised or reversed by class of assets and, if the entity reports segment information in accordance with IAS 14, by reportable segment based on the entity's primary reporting format; and (iii) if the aggregation of assets for identifying the cash-generating unit has changed since the previous estimate of the cash-generating unit's recoverable amount (if any), a description of the current and former way of aggregating assets and the reasons for changing the way the cash-generating unit is identified	
	(e)	whether the recoverable amount of the asset (cash-generating unit) is its fair value less costs to sell or its value in use.	
	(f)	if recoverable amount is fair value less costs to sell, the basis used to determine fair value less costs to sell (such as whether fair value was determined by reference to an active market).	
	(g)	if recoverable amount is value in use, the discount rate(s) used in the current estimate and previous estimate (if any) of value in use.	
131		An entity shall disclose the following information for the aggregate impairment losses and the aggregate reversals of impairment losses recognised during the period for which no information is disclosed in accordance with paragraph 130:	
	(a)	the main classes of assets affected by impairment losses and the main classes of assets affected by reversals of impairment losses.	
	(b)	the main events and circumstances that led to the recognition of these impairment losses and reversals of impairment losses.	
133		If, in accordance with paragraph 84, any portion of the goodwill acquired in a business combination during the period has not been allocated to a cash-generating unit (group of units) at the reporting date, the amount of the unallocated goodwill shall be disclosed together with the reasons why that amount remains unallocated.	
134		An entity shall disclose the information required by (a)–(f) for each cash-generating unit (group of units) for which the carrying amount of goodwill or intangible assets with indefinite useful lives allocated to that unit (group of units) is significant in comparison with the entity's total carrying amount of goodwill or intangible assets with indefinite useful lives:	
	(a)	the carrying amount of goodwill allocated to the unit (group of units).	
	(b)	the carrying amount of intangible assets with indefinite useful lives allocated to the unit (group of units).	
	(c)	the basis on which the unit's (group of units') recoverable amount has been determined (ie value in use or fair value less costs to sell).	
134	(d)	if the unit's (group of units') recoverable amount is based on value in use:	
	(d) i	a description of each key assumption on which management has based its cash flow projections for the period covered by the most recent budgets/forecasts. Key assumptions are those to which the unit's (group of units') recoverable amount is most sensitive.	

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	(d) ii	a description of management’s approach to determining the value(s) assigned to each key assumption, whether those value(s) reflect past experience or, if appropriate, are consistent with external sources of information, and, if not, how and why they differ from past experience or external sources of information.	
	(d) iii	the period over which management has projected cash flows based on financial budgets/forecasts approved by management and, when a period greater than five years is used for a cash-generating unit (group of units), an explanation of why that longer period is justified.	
	(d) iv	the growth rate used to extrapolate cash flow projections beyond the period covered by the most recent budgets/forecasts, and the justification for using any growth rate that exceeds the long-term average growth rate for the products, industries, or country or countries in which the entity operates, or for the market to which the unit (group of units) is dedicated.	
	(d) v	the discount rate(s) applied to the cash flow projections.	
134	(e)	if the unit’s (group of units’) recoverable amount is based on fair value less costs to sell, the methodology used to determine fair value less costs to sell. If fair value less costs to sell is not determined using an observable market price for the unit (group of units), the following information shall also be disclosed:	
	(e) i	a description of each key assumption on which management has based its determination of fair value less costs to sell. Key assumptions are those to which the unit’s (group of units’) recoverable amount is most sensitive.	
	(e) ii	a description of management’s approach to determining the value(s) assigned to each key assumption, whether those value(s) reflect past experience or, if appropriate, are consistent with external sources of information, and, if not, how and why they differ from past experience or external sources of information.	
134	(f)	if a reasonably possible change in a key assumption on which management has based its determination of the unit’s (group of units’) recoverable amount would cause the unit’s (group of units’) carrying amount to exceed its recoverable amount:	
	(f) i	the amount by which the unit’s (group of units’) recoverable amount exceeds its carrying amount.	
	(f) ii	the value assigned to the key assumption.	
	(f) iii	the amount by which the value assigned to the key assumption must change, after incorporating any consequential effects of that change on the other variables used to measure recoverable amount, in order for the unit’s (group of units’) recoverable amount to be equal to its carrying amount.	
135	A	If some or all of the carrying amount of goodwill or intangible assets with indefinite useful lives is allocated across multiple cash-generating units (groups of units), and the amount so allocated to each unit (group of units) is not significant in comparison with the entity’s total carrying amount of goodwill or intangible assets with indefinite useful lives, that fact shall be disclosed, together with the aggregate carrying amount of goodwill or intangible assets with indefinite useful lives allocated to those units(groups of units).	
	B	In addition, if the recoverable amounts of any of those units (groups of units) are based on the same key assumption(s) and the aggregate carrying amount of goodwill or intangible assets with indefinite useful lives allocated to them is significant in comparison with the entity’s total carrying amount of goodwill or intangible assets with	

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		indefinite useful lives, an entity shall disclose that fact, together with:	
	B(a)	the aggregate carrying amount of goodwill allocated to those units (groups of units).	
	B(b)	the aggregate carrying amount of intangible assets with indefinite useful lives allocated to those units (groups of units).	
	B(c)	a description of the key assumption(s).	
	B(d)	a description of management’s approach to determining the value(s) assigned to the key assumption(s), whether those value(s) reflect past experience or, if appropriate, are consistent with external sources of information, and, if not, how and why they differ from past experience or external sources of information.	
135	(e)	if a reasonably possible change in the key assumption(s) would cause the aggregate of the units’ (groups of units’) carrying amounts to exceed the aggregate of their recoverable amounts:	
	(e) i	the amount by which the aggregate of the units’ (groups of units’) recoverable amounts exceeds the aggregate of their carrying amounts.	
	(e) ii	the value(s) assigned to the key assumption(s).	
	(e) iii	the amount by which the value(s) assigned to the key assumption(s) must change, after incorporating any consequential effects of the change on the other variables used to measure recoverable amount, in order for the aggregate of the units’ (groups of units’) recoverable amounts to be equal to the aggregate of their carrying amounts.	
136		The most recent detailed calculation made in a preceding period of the recoverable amount of a cash-generating unit (group of units) may, in accordance with paragraph 24 or 99, be carried forward and used in the impairment test for that unit (group of units) in the current period provided specified criteria are met. When this is the case, the information for that unit (group of units) that is incorporated into the disclosures required by paragraphs 134 and 135 relate to the carried forward calculation of recoverable amount.	
		Total Level of Compliance with IAS 36	
Paragraph	Sub-paragraph	<i>IAS 37 ‘Provisions, Contingent Liabilities and Contingent Assets’</i>	
84		For each class of provision, an entity shall disclose:	
	(a)	the carrying amount at the beginning and end of the period;	
	(b)	additional provisions made in the period, including increases to existing provisions;	
	(c)	amounts used (ie incurred and charged against the provision) during the period;	
	(d)	unused amounts reversed during the period; and	
	(e)	the increase during the period in the discounted amount arising from the passage of time and the effect of any change in the discount rate.	
85		An entity shall disclose the following for each class of provision:	
	(a)	a brief description of the nature of the obligation and the expected timing of any resulting outflows of economic benefits;	
	(b)	an indication of the uncertainties about the amount or timing of those outflows. Where necessary to provide adequate information, an entity shall disclose the major assumptions made concerning future events, as addressed in paragraph 48; and	
	(c)	the amount of any expected reimbursement, stating the amount of any asset that has been recognised for that expected reimbursement.	

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86		Unless the possibility of any outflow in settlement is remote, an entity shall disclose for each class of contingent liability at the balance sheet date a brief description of the nature of the contingent liability and, where practicable:
	(a)	an estimate of its financial effect, measured under paragraphs 36–52;
	(b)	an indication of the uncertainties relating to the amount or timing of any outflow; and
	(c)	the possibility of any reimbursement.
88		Where a provision and a contingent liability arise from the same set of circumstances, an entity makes the disclosures required by paragraphs 84–86 in a way that shows the link between the provision and the contingent liability.
89		Where an inflow of economic benefits is probable, an entity shall disclose a brief description of the nature of the contingent assets at the balance sheet date, and, where practicable, an estimate of their financial effect, measured using the principles set out for provisions in paragraphs 36–52.
91		Where any of the information required by paragraphs 86 and 89 is not disclosed because it is not practicable to do so, that fact shall be stated.
92		In extremely rare cases, disclosure of some or all of the information required by paragraphs 84–89 can be expected to prejudice seriously the position of the entity in a dispute with other parties on the subject matter of the provision, contingent liability or contingent asset. In such cases, an entity need not disclose the information, but shall disclose the general nature of the dispute, together with the fact that, and reason why, the information has not been disclosed.
		Total Level of Compliance with IAS 37
Paragraph	Sub-paragraph	<i>IAS 38 ‘Intangible Assets’</i>
118		An entity shall disclose the following for each class of intangible assets, distinguishing between internally generated intangible assets and other intangible assets:
	(a)	whether the useful lives are indefinite or finite and, if finite, the useful lives or the amortisation rates used;
	(b)	the amortisation methods used for intangible assets with finite useful lives;
	(c)	the gross carrying amount and any accumulated amortisation (aggregated with accumulated impairment losses) at the beginning and end of the period;
	(d)	the line item(s) of the income statement in which any amortisation of intangible assets is included;
	(e)	a reconciliation of the carrying amount at the beginning and end of the period showing: (i) additions, indicating separately those from internal development, those acquired separately, and those acquired through business combinations; (ii) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS 5 and other disposals; (iii) increases or decreases during the period resulting from revaluations under paragraphs 75, 85 and 86 and from impairment losses recognised or reversed directly in equity in accordance with IAS 36 Impairment of Assets (if any); (iv) impairment losses recognised in profit or loss during the period in accordance with IAS 36 (if any); (v) impairment

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		losses reversed in profit or loss during the period in accordance with IAS 36 (if any); (vi) any amortisation recognised during the period; (vii) net exchange differences arising on the translation of the financial statements into the presentation currency, and on the translation of a foreign operation into the presentation currency of the entity; and (viii) other changes in the carrying amount during the period.	
122		An entity shall also disclose:	
	(a)	for an intangible asset assessed as having an indefinite useful life, the carrying amount of that asset and the reasons supporting the assessment of an indefinite useful life. In giving these reasons, the entity shall describe the factor(s) that played a significant role in determining that the asset has an indefinite useful life.	
	(b)	a description, the carrying amount and remaining amortisation period of any individual intangible asset that is material to the entity's financial statements.	
	(c)	for intangible assets acquired by way of a government grant and initially recognised at fair value (see paragraph 44): (i) the fair value initially recognised for these assets; (ii) their carrying amount; and (iii) whether they are measured after recognition under the cost model or the revaluation model.	
	(d)	the existence and carrying amounts of intangible assets whose title is restricted and the carrying amounts of intangible assets pledged as security for liabilities.	
	(e)	the amount of contractual commitments for the acquisition of intangible assets.	
		Intangible assets measured after recognition using the revaluation model	
124		If intangible assets are accounted for at revalued amounts, an entity shall disclose the following:	
	(a)	by class of intangible assets: (i) the effective date of the revaluation; (ii) the carrying amount of revalued intangible assets; and (iii) the carrying amount that would have been recognised had the revalued class of intangible assets been measured after recognition using the cost model in paragraph 74;	
	(b)	the amount of the revaluation surplus that relates to intangible assets at the beginning and end of the period, indicating the changes during the period and any restrictions on the distribution of the balance to shareholders; and	
	(c)	the methods and significant assumptions applied in estimating the assets' fair values.	
126		An entity shall disclose the aggregate amount of research and development expenditure recognised as an expense during the period.	
		Total Level of Compliance with IAS 38	
Paragraph	Sub-paragraph	IAS 40 'Investment Property'	
75		An entity shall disclose:	
	(a)	whether it applies the fair value model or the cost model.	
	(b)	if it applies the fair value model, whether, and in what circumstances, property interests held under operating leases are classified and accounted for as investment property.	

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	(c)	when classification is difficult (see paragraph 14), the criteria it uses to distinguish investment property from owner-occupied property and from property held for sale in the ordinary course of business.	
	(d)	the methods and significant assumptions applied in determining the fair value of investment property, including a statement whether the determination of fair value was supported by market evidence or was more heavily based on other factors (which the entity shall disclose) because of the nature of the property and lack of comparable market data.	
	(e)	the extent to which the fair value of investment property (as measured or disclosed in the financial statements) is based on a valuation by an independent valuer who holds a recognised and relevant professional qualification and has recent experience in the location and category of the investment property being valued. If there has been no such valuation, that fact shall be disclosed.	
	(f)	the amounts recognised in profit or loss for: (i) rental income from investment property; (ii) direct operating expenses (including repairs and maintenance) arising from investment property that generated rental income during the period; and (iii) direct operating expenses (including repairs and maintenance) arising from investment property that did not generate rental income during the period. (iv) the cumulative change in fair value recognised in profit or loss on a sale of investment property from a pool of assets in which the cost model is used into a pool in which the fair value model is used (see paragraph 32C).	
	(g)	the existence and amounts of restrictions on the realisability of investment property or the remittance of income and proceeds of disposal.	
	(h)	contractual obligations to purchase, construct or develop investment property or for repairs, maintenance or enhancements.	
		Fair value model	
76		In addition to the disclosures required by paragraph 75, an entity that applies the fair value model in paragraphs 33–55 shall disclose a reconciliation between the carrying amounts of investment property at the beginning and end of the period, showing the following: (a) additions, disclosing separately those additions resulting from acquisitions and those resulting from subsequent expenditure recognised in the carrying amount of an asset; (b) additions resulting from acquisitions through business combinations; (c) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS 5 and other disposals; (d) net gains or losses from fair value adjustments; (e) the net exchange differences arising on the translation of the financial statements into a different presentation currency, and on translation of a foreign operation into the presentation currency of the reporting entity; (f) transfers to and from inventories and owner-occupied property; and (g) other changes.	
77		When a valuation obtained for investment property is adjusted significantly for the purpose of the financial statements, for example to avoid double-counting of assets or liabilities that are recognised as separate assets and liabilities as described in paragraph 50, the entity shall disclose a reconciliation between the valuation obtained and the adjusted valuation included in the financial statements, showing separately the aggregate amount of any recognised lease obligations that have been added back, and any other significant adjustments.	

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78	A	In the exceptional cases referred to in paragraph 53 [where fair value cannot be measured reliably], when an entity measures investment property using the cost model in IAS 16, the reconciliation required by paragraph 76 shall disclose amounts relating to that investment property separately from amounts relating to other investment property.
	B	In addition, an entity shall disclose:
	B(a)	a description of the investment property;
	B(b)	an explanation of why fair value cannot be determined reliably;
	B(c)	if possible, the range of estimates within which fair value is highly likely to lie; and
	B(d)	on disposal of investment property not carried at fair value: (i) the fact that the entity has disposed of investment property not carried at fair value; (ii) the carrying amount of that investment property at the time of sale; and (iii) the amount of gain or loss recognised.
		Cost model
79		In addition to the disclosures required by paragraph 75, an entity that applies the cost model in paragraph 56 shall disclose:
	(a)	the depreciation methods used;
	(b)	the useful lives or the depreciation rates used;
	(c)	the gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period;
	(d)	a reconciliation of the carrying amount of investment property at the beginning and end of the period, showing the following: (i) additions, disclosing separately those additions resulting from acquisitions and those resulting from subsequent expenditure recognised as an asset; (ii) additions resulting from acquisitions through business combinations; (iii) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS 5 and other disposals; (iv) depreciation; (v) the amount of impairment losses recognised, and the amount of impairment losses reversed, during the period in accordance with IAS 36; (vi) the net exchange differences arising on the translation of the financial statements into a different presentation currency, and on translation of a foreign operation into the presentation currency of the reporting entity; (vii) transfers to and from inventories and owner-occupied property; and (viii) other changes; and
	(e)	the fair value of investment property. In the exceptional cases described in paragraph 53, when an entity cannot determine the fair value of the investment property reliably, it shall disclose: (i) a description of the investment property; (ii) an explanation of why fair value cannot be determined reliably; and (iii) if possible, the range of estimates within which fair value is highly likely to lie.
		Total Level of Compliance with IAS 40
Paragraph	Sub-Paragraph	IAS 41 'Agriculture'
40		An entity shall disclose the aggregate gain or loss arising during the current period on initial recognition of biological assets and agricultural produce and from the change in fair value less estimated point-of-sale costs of biological assets.
41		An entity shall provide (by narrative or quantified) a description of

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		each group of biological assets.	
46		If not disclosed elsewhere in information published with the financial statements, an entity shall describe:	
	(a)	the nature of its activities involving each group of biological assets; and	
	(b)	non-financial measures or estimates of the physical quantities of: (i) each group of the entity's biological assets at the end of the period; and (ii) output of agricultural produce during the period.	
47		An entity shall disclose the methods and significant assumptions applied in determining the fair value of each group of agricultural produce at the point of harvest and each group of biological assets.	
48		An entity shall disclose the fair value less estimated point-of-sale costs of agricultural produce harvested during the period, determined at the point of harvest.	
49		An entity shall disclose:	
	(a)	the existence and carrying amounts of biological assets whose title is restricted, and the carrying amounts of biological assets pledged as security for liabilities;	
	(b)	the amount of commitments for the development or acquisition of biological assets; and	
	(c)	financial risk management strategies related to agricultural activity.	
50		An entity shall present a reconciliation of changes in the carrying amount of biological assets between the beginning and the end of the current period. The reconciliation shall include: (a) the gain or loss arising from changes in fair value less estimated point-of-sale costs; (b) increases due to purchases; (c) decreases attributable to sales and biological assets classified as held for sale (or included in a disposal group that is classified as held for sale) in accordance with IFRS 5; (d) decreases due to harvest; (e) increases resulting from business combinations; (f) net exchange differences arising on the translation of financial statements into a different presentation currency, and on the translation of a foreign operation into the presentation currency of the reporting entity; and (g) other changes.	
		Additional disclosures for biological assets where fair value cannot be measured reliably	
54		If an entity measures biological assets at their cost less any accumulated depreciation and any accumulated impairment losses (see paragraph 30) at the end of the period, the entity shall disclose for such biological assets:	
	(a)	a description of the biological assets;	
	(b)	an explanation of why fair value cannot be measured reliably;	
	(c)	if possible, the range of estimates within which fair value is highly likely to lie;	
	(d)	the depreciation method used;	
	(e)	the useful lives or the depreciation rates used; and	
	(f)	the gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period.	
55		If, during the current period, an entity measures biological assets at their cost less any accumulated depreciation and any accumulated impairment losses (see paragraph 30), an entity shall disclose any gain or loss recognised on disposal of such biological assets and the reconciliation required by paragraph 50 shall disclose amounts related to such biological assets separately. In addition, the reconciliation	

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		shall include the following amounts included in profit or loss related to those biological assets: (a) impairment losses; (b) reversals of impairment losses; and (c) depreciation.	
56		If the fair value of biological assets previously measured at their cost less any accumulated depreciation and any accumulated impairment losses becomes reliably measurable during the current period, an entity shall disclose for those biological assets:	
	(a)	a description of the biological assets;	
	(b)	an explanation of why fair value has become reliably measurable; and	
	(c)	the effect of the change.	
		Government grants	
57		An entity shall disclose the following related to agricultural activity covered by this Standard:	
	(a)	the nature and extent of government grants recognised in the financial statements;	
	(b)	unfulfilled conditions and other contingencies attaching to government grants; and	
	(c)	significant decreases expected in the level of government grants.	
		Total Level of Compliance with IAS 41	
		Total level of Compliance	

Appendix III – Correlation matrix of independent variables determining compliance with IFRS.

	Size	Gearing	EquCo_I	Profitability	Ear_Co_I	Liquidity	Industry	Auditor
Size	1							
Gearing	-0.036	1						
EquCo_I	-0.168*	0.202*	1					
Profitability	0.363***	-0.336***	-0.147*	1				
Ear_Co_I	-0.060	0.166*	0.498***	-0.156*	1			
Liquidity	0.072	-0.117	-0.011	0.080	-0.033	1		
Industry	-0.052	0.004	-0.035	-0.089	-0.115	-0.040	1	
Auditor	0.402***	0.253*	-0.041	0.011	-0.015	-0.085	-0.020	1

*Significant at 10%, ***Significant at 1%.